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KOREA

SECOND AGRICULTURAL PRODUCTS PROCESSING PROJECT

STAFF APPRAISAL REPORT

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Agriculture Division II
Projects Department
East Asia and Pacific Regional Office

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CURRENCY EQUIVALENTS

Won (W) 1.00	=	US\$0.00172
W 580	=	US\$1.00
W 1 million	=	US\$1,724
W 1 billion	=	US\$1.724 million

WEIGHTS AND MEASURES

1 meter (m)	=	3.28 feet
1 square meter (m ²)	=	10.76 square feet
1 hectare (ha)	=	2.47 acres
1 ton	=	1,000 kilogram
	=	2,205 pounds

ABBREVIATIONS

AFDC	-	Agriculture and Fishery Development Corporation
MAF	-	Ministry of Agriculture and Fisheries
PD	-	Project Department of AFDC
NACF	-	National Agricultural Cooperative Federation
NFFC	-	National Federation of Fisheries Cooperatives
KDB	-	Korea Development Bank
KDFC	-	Korea Development Finance Corporation
SMIB	-	Small and Medium Industry Bank

FISCAL YEAR

January 1 - December 31

KOREA: SECOND AGRICULTURAL
PRODUCTS PROCESSING PROJECT

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MAP

IBRD 12351R1

KOREA

SECOND AGRICULTURAL PRODUCTS PROCESSING PROJECT

1. PROJECT BACKGROUND

A. Introduction

1.01 The Government of the Republic of Korea has requested Bank assistance in financing a second Agricultural Products Processing Project. The project, for which a Bank loan of US\$50 million is proposed, would allow the pace of development in the processing of agricultural products (agro-processing) to be accelerated. Under the project, the methods and procedures of sub-project selection, appraisal and supervision, including the provision of technical assistance to processors developed under the first project (Loan 994-KO) would be further improved and strengthened. The project was prepared by the Agriculture and Fishery Development Corporation (AFDC) and appraised in September/ October 1979 by Messrs. S.J. Khoo, A. Hasan, G. Kalu (Bank), T. Mainwaring, and O. Ramon (Consultants). This report is based on the findings of the appraisal mission.

B. Agriculture Sector

Contribution to the Economy

1.02 The rapid growth of Korea's industrial sector has tended to obscure the creditable growth and contribution of the agriculture sector to the Korean economy. In the course of the economic growth of the country, the agriculture sector has successfully performed its traditional roles as a major provider of employment, including labor for industry, and a source of food to domestic consumers. Between 1970 and 1978, growth in value added in the agriculture sector averaged 4.0% in real terms which is significantly higher than the comparable rates in most countries,^{/1} although as a result of the much faster growth of the nonagricultural sectors, its share of the GNP declined from 30% to 19%. Exports of agricultural products, including fisheries, increased substantially from US\$111.3 million in 1970 to US\$988.9 million in 1977. The agriculture sector accounted for 33,000 new jobs annually or 7.1% of incremental employment during the 1970-78 period. Its contribution to total employment has remained significant despite the high rate of labor absorption by the nonagricultural sectors. Agricultural employment increased from 4.9 million or 50% of total employment in 1970 to a peak of 5.6 million in 1976. Since that year, there has been a gradual decline and by 1978, 5.1 million people were employed in the sector or about 38% of total employment. Although the shares of the agriculture sector in GNP and employment are projected to decline in the future, its capacity for

^{/1} IBRD, World Development Report, 1979, pp. 128-9.

absorbing excess labor during periods of cyclical recession is likely to remain an important cushioning factor in maintaining employment at a high level.

Area and Structure

1.03 About 22% or 2.2 million ha of Korea's total land area of some 9.9 million ha is cultivated. Another two-thirds are classified as forest land most of which being mountainous would not be suitable for cultivation. Additional land that can be brought into cultivation is consequently quite limited. Rice and barley are the major crops accounting for some two-thirds of the total cropped area. Due to climatic constraints, double cropping of rice is not possible but a rice-barley rotation is practiced in the southern regions and now occurs on about 45% of the total paddy land. Pulses (mainly soybeans), potatoes, vegetables, mulberry, fruits, tobacco, and ginseng are the other important crops and together with miscellaneous cereals, viz. maize, wheat and millet, account for most of the remaining cropped area.

1.04 There are some 2.2 million farm households in Korea. The average farm size is about 0.9 ha, and nearly two-thirds of the farm households have less than 1 ha of cropland. Only about 5% are landless. This structure is largely due to the Farmland Reform Law of 1950, which imposed a ceiling of 3 ha of cultivated land per household.

Production Trends

1.05 As a result of the use of new varieties, improved and expanded irrigation and the success of land consolidation programs, heavy use of fertilizers and the Government's price support policies, rice production increased from 3.9 million tons in 1970 to a peak of 6 million tons in 1977, an average annual growth rate of over 6%. Although self-sufficiency in rice has been achieved since 1975, Government policy regarding this crop remains unchanged, namely, to promote the planting of high yielding varieties through its price support and input subsidy policy.

1.06 Between 1970-76, barley production fluctuated between 1.4 million tons and 1.8 million tons without showing any discernable trend. However, as a result of the increased availability of rice and rising consumer incomes, consumption of barley (a less desirable staple) has been declining in recent years despite subsidies which permit low prices to consumers. Since the Government has continued its subsidy to farmers for this crop, there has been a significant accumulation of surpluses.

1.07 Production of feedgrains (mainly maize) has remained negligible in relation to the rapidly growing demand for such feeds by livestock producers in response to increased consumer demand for livestock products. Thus, imports of feedgrains were expected to increase from 1.79 million tons in 1978 to an estimated 3.2 million tons in 1979. The Government allocates

feedgrains to millers at subsidized prices. Wheat production has likewise been negligible due to the limited availability of arable land, poor yields, and high production costs. The country will accordingly continue to depend on imports of this grain for virtually all of its requirements. Although the goal of self-sufficiency in rice and barley, the basic food staples, was achieved in the mid-1970s, the level of self-sufficiency in all grains has continued to decline from about 76% in 1976 to 65% in 1978 and this trend is expected to continue.

1.08 A significant part of the gains in total agricultural value added has been due to the diversification and expansion of production into higher value crops, mainly fruits, vegetables, and livestock products. Thus, between 1970 and 1977 fruit production increased from 423,000 tons to 744,000 tons, livestock products from 396,000 tons to 785,000 tons, and vegetables from 2.5 million tons to over 3 million tons, annual increases averaging about 8%, 10%, and 3% respectively. During the same period, fisheries production also increased rapidly from 0.9 million tons to 2.4 million tons or an annual average of about 15%. Changes in the pattern of consumer demand resulting from rapidly rising per capita incomes have played a major role in determining the shifts in agricultural production.

Support Services

1.09 Services in support of agriculture are well developed in Korea and are generally meeting the needs of the farmers. Improvements are needed mainly in extension, credit and marketing for the higher value crops and livestock. Assistance in this regard has been provided by several Bank-financed projects (para. 1.28). A project to improve agricultural marketing is under preparation and is soon to be submitted to the Bank for possible financing.

Price Support and Subsidies

1.10 Since 1968, the Government has been implementing a two-tier price policy which supplemented farmers' incomes through purchases of a significant part of their foodgrains and other essential produce at higher than the prevailing market prices. Consumers were also subsidized through the sale of these products by the Government at lower than its purchase and prevailing wholesale prices. This policy, which has served the intended purpose of expanding the production of these crops and transferring incomes to farmers, also contributed significantly towards raising farm incomes to such an extent that by the early 1970s the average farm household income had achieved parity with that of the urban households. However, since 1978 the average urban household income has once again exceeded that of the average farm household, and indications are that unless additional income sources can be provided for the farm households, this trend will worsen.

Development Priorities

1.11 Important developments confronting the agriculture sector in recent years which need to be addressed include (a) a declining proportion of younger male workers in the farm labor force, (b) rapid increases in rural wages, (c) paucity of nonfarm employment opportunities in the rural areas, (d) increasing shortage of labor, especially during the planting and harvesting seasons, (e) widening of incomes between farm and nonfarm households, and (f) changes in the level and pattern of consumer demand away from foodgrains to high income elastic commodities, such as livestock products, fruits and vegetables. These developments underscore the need for a reorientation of financing agriculture aimed at, inter alia, accelerating the pace of farm mechanization, increasing the output and productivity of agricultural production, mainly the diversification and expansion of higher value foods, and development of improved facilities for the processing, storage and marketing of agricultural products.

Recent Developments and Future Plans

1.12 As a result of rapid economic growth and increases in per capita income, considerable changes will continue to occur in the structure of household consumption. Within the food consumption category, the shift has been from the staple carbohydrates such as barley and rice to the higher value protein foods such as meat, fruits and vegetables. The share of cereals in total food expenditures is projected to decrease in the future from about 55% in 1978 to about 43% by 1986, while the shares of vegetables, fruits, livestock and fish products are projected to increase substantially during the period. With the projected increases in production and consumption, the various post-production stages of storage, processing and marketing will become even more important.

1.13 In an effort to increase the domestic production of higher value crops, the Government under its current fourth Five-Year Development Plan (1977-81) has designated special areas in a number of provinces for the production of fruits and vegetables with credit assistance to producers for this purpose, including the development of upland irrigation systems. Livestock output is being fostered by subsidized feeds and credit to farmers.

1.14 Besides the provision of special incentives for the expansion of fruits and vegetables production, the significant price fluctuations of these crops have led the Government to institute a price stabilization program to protect producers and consumers by setting a band for ceiling and floor prices for food items which are essential to the Korean diet. This program has become a new major function of AFDC (para. 2.01).

1.15 The Government also intends to expand the production and export of higher value agricultural and fisheries products by improving infrastructure such as power, transportation and communication in the special agricultural areas, and measures to upgrade the quality and standardization, inspection and processing of the products through the provision of technical assistance and

credit. In particular, processing facilities in the private sector are to be modernized and expanded with financial and technical assistance from the National Agricultural Cooperative Federation (NACF), National Federation of Fisheries Cooperatives (NFFC), and AFDC. Up to now, the finance and technical assistance programs for onfarm development have received adequate support from NACF and other institutions, including foreign bilateral and multilateral agencies. The expansion of storage and processing facilities which will be undertaken in the proposed project fits into the sectoral program priorities of the Government.

C. Agro-Processing Subsector /1

Basic Role

1.16 The agro-processing subsector in Korea comprises essentially the freezing, cold storage and processing of agricultural products, including livestock and fisheries. Its basic role is to carry out these activities efficiently and to provide adequate processed agricultural products to meet the domestic consumption and export demand.

Growing Importance

1.17 Between 1970-76 the relative importance of the subsector increased from an estimated 5.5% of total value added for the economy to 6.5%, or an average annual rate of about 13%. Employment in the subsector increased from 152,000 to 219,000. Production of the main processed foods, comprising foodgrain, fruits, vegetables, livestock and fisheries products, increased from 2.1 million tons to 3.4 million tons, and processed animal feeds, which is the principal nonfood item in support of livestock production, increased from about 0.5 million tons to 1.4 million tons, or annual increases averaging about 8% and 18% respectively. Exports of processed foods increased from US\$123 million to US\$813 million. About 28% of total agricultural production was processed in 1976 compared with 20% in 1970. The expansion of agro-processing has been due mainly to increasing domestic consumption of processed foods resulting from rapidly rising consumer incomes and changes in the pattern of consumer demand. Thus between 1970-76 per capita consumption of processed fruits, vegetables, livestock and fisheries products increased by about 12% a year. Since the late 1960s, the Government has been increasing its emphasis on the development of the agro-processing subsector mainly to increase income and employment in the rural areas, expand the supply and quality of processed foods to consumers, and increase exports of processed products. In this connection, it established AFDC in 1968 to promote, develop and finance agro-processing facilities.

/1 Statistics on the subsector are not readily available. The 1970-76 data used in this report were estimated by AFDC based on the most recent data from various published sources.

Structure of Production

1.18 The subsector can be broadly divided into food processing and nonfood processing industries. Facilities processing fruits and vegetables, livestock, fisheries, and foodgrains /1 comprise the four main groups of industries which account for the bulk of the output of processed foods. The processing activities involve mainly the production of noodles and other grain-based products, dairy products, freezing and cold storage, canning and bottling, drying, pickling, oil seed extraction, and other preservation. The processing of feedgrains into animal feeds is the dominant activity of the nonfood industries. Other main activities include the drying of tobacco and the spinning of raw silk from cocoons. Production of the major processed foods and nonfood products is shown in Table 1.1 below.

Table 1.1 PRODUCTION OF THE MAJOR AGRO-PROCESSED PRODUCTS
('000 tons)

	1970	1973	1976	Average annual growth rate 1970-76 (%)
<u>Food Products</u>				
Foodgrains	1,833	2,344	2,591	6
Fruits and vegetables	52	88	181	23
Livestock	27	77	93	23
Fisheries	230	379	606	18
<u>Nonfood Products</u>				
Animal feeds	508	910	1,382	18
Raw silk	88	119	175	12
Tobacco	45	50	163	24

1.19 As shown in Table 1.2 below, the number of firms engaged in processing these products (except foodgrains for which no data are avail-

/1 Excluding the milling of padi into rice. Although such milling is a processing activity its omission from this report is due to the fact that existing milling facilities are adequate to meet present and immediate future needs. Moreover, NACF has been designated by the Government to provide credit assistance for the financing of such facilities.

able) increased from an estimated 715 in 1970 to 1,293 in 1976 or by 81% compared with a nearly two-fold increase (174%) in their production which is an indication of the significant increase in the average size of the firms. In terms of the number of workers employed, about 88% of the firms are medium/small and the remaining 12% large. This is based on the Government's classification of size which defines firms employing more than 300 workers as large and 300 and less workers as medium/small (a majority of the medium/small firms have less than 100 employees). The number of small firms has been declining because their operations have become increasingly unprofitable as a result of high production costs and low and inconsistent quality of the products produced, which in turn are due mainly to the small scale of operations and the use of outmoded technology and equipment. Reacting to this situation, existing firms which have the required financial resources are expanding the scale of their operations to enable the adoption of improved technology and equipment.

Table 1.2: NUMBER AND STRUCTURE OF AGRO-PROCESSING FIRMS, 1970-76

	1970	1976	Increase (%)
I. <u>Food Processing</u>			
1. Fruits and vegetables	88	136	55
2. Fisheries	410	774	89
3. Livestock/dairy	90	138	53
Subtotal	<u>588</u>	<u>1,048</u>	<u>78</u>
II. <u>Nonfood Processing</u>			
1. Animal feeds	48	102	112
2. Tobacco	9	32	256
3. Raw silk	70	111	59
Subtotal	<u>127</u>	<u>245</u>	<u>93</u>
Total	<u>715</u>	<u>1,293</u>	<u>81</u>

Technology

1.20 The agro-processing operations are labor-intensive and, with the exception of the large-scale plants, generally use a low level of technology which results in inefficient handling of the raw material input and their processing. This technology is widespread among the small and medium size plants, especially the older plants and those engaged in multiproduct processing of fruits and vegetables and production mainly for the domestic

market. It is exemplified by (a) outmoded, inadequate, and often inappropriate equipment, including their poor maintenance, inefficient layout and ineffective monitoring to regulate the use of energy and quality of the final products, (b) insufficient space for processing, and (c) lack of proper storage for the required raw material input resulting in the deterioration of their quality and wastage, undue interruption of the processing operations, and lower utilization of capacity. The improper layout of equipment and insufficient processing space in turn leads to the inefficient deployment of labor. This has become a major problem in view of the rapidly increasing cost of labor which would soon dictate that the more labor-intensive processes be phased out as soon as possible. An increasing number of plants are upgrading their technology mainly through the addition of modern equipment and the gradual replacement of old equipment so that their operations incorporate a mixture of the low level and advanced technologies. But most plants would need to expand the scale of their operations for any further significant technological improvements to be financially feasible, and for this purpose many of them would require financial and technical assistance. Only a small number of plants, all large-scale, use advanced technology, the main features of which are proper storage and handling of raw materials and the necessary equipment and methods to produce uniform and high quality products efficiently. This would entail, inter alia, the operation of processing lines, fully or partially automated, to allow the continuing movement of raw materials through the various stages of processing to the production of the final products, and use of mechanized packaging which is significantly more efficient and less costly than if operated manually. Processing plants using such technology are primarily producing animal feeds, dairy products, meat, fruit juice based beverage, and raw silk.

Consumption and Future Demand for Processed Food

1.21 During 1970-76, consumption of processed fruits, vegetables and livestock products increased by an average annual rate of about 18%, fisheries products 12%, and animal feeds 18% as a result of rapidly rising per capita incomes (about 8% annually in real terms) and changes in the pattern of consumption. This in turn is an indication of their high income elasticities, estimated at about 0.9 for fisheries, 1.0 for fruits and vegetables and 1.9 for livestock products. It is also reflected in the fact that processed foods accounted for 14% of consumers' total food expenditures in 1978 compared to only 5% a decade earlier. The substantial increase in consumption is expected to continue at least through the 1980s in view of the continuing increase in incomes and the fact that an increasing proportion of the population will be urban with a greater preference for processed foods. There is accordingly a significant potential and need to continue expanding the production of these foods and other processed products.

1.22 The consumption and future demand for the major processed products projected by AFDC are shown in Table 1.3 below.

Table 1.3: CONSUMPTION AND PROJECTED DEMAND FOR MAJOR AGRO-PROCESSED PRODUCTS

	<u>Consumption</u>	<u>Projected demand</u> /a	
	1976	1981	1983
	----- ('000 tons) -----		
<hr/>			
<u>Food products</u>			
Foodgrains	3,148	3,188	3,203
Fruits & vegetables	212	299	360
Livestock	160	230	332
Fisheries	568	936	1,101
<u>Nonfood products</u>			
Animal feeds	2,840	3,667	4,711
Raw silk	168	197	260
Tobacco	180	221	269

/a Including projected net exports of fruits and vegetables amounting to about 39,000 tons in 1981 and 45,000 tons in 1983. The corresponding figures for fisheries products are 261,000 tons and 293,000 tons. Exports of livestock products would be negligible. The projections are based on data for the 1970-77 period.

The estimates of future demand are based on recent trends in consumption, projected increases in population and per capita incomes, and the estimated income elasticities of demand for the products concerned.

1.23 Excluding foodgrains, the growth rate of which would be insignificant, the demand for the other major processed products is expected to amount to about 7.0 million tons in 1983 compared with 4.1 million tons consumed in 1976, an increase of about 8% annually during the seven year period. Demand for fruits, vegetables, livestock and fisheries (the focus of lending under the proposed project) would increase at an even faster annual rate of about 10%. The projected demand would be mainly for canned and dried fruits and vegetables, frozen, dried, and canned fisheries products, canned and smoked meat, dairy, and other processed livestock products.

Projected Investment Needs

1.24 Based on the capital output ratios of existing plants, including those financed under the first project, the costs of installing the additional capacity to meet the projected demand for the various processed products have been estimated by AFDC at some US\$375 million in current prices for the three year period 1980/81-1982/83. The additional capacity required

would comprise mainly freezing and cold storage, canning, drying and other preservation, foodgrain, dairy and animal feed processing, and raw silk spinning. AFDC is expected to provide a significant share of the financing for this purpose.

Financing

1.25 Institutional financing for the agro-processing subsector is provided largely by AFDC, Small and Medium Industry Bank (SMIB), Korea Development Bank (KDB), National Agricultural Cooperatives Federation (NACF), Korea Development Finance Corporation (KDFC), and National Federation of Fisheries Cooperatives (NFFC) all of which are Government sponsored agencies, and the commercial banks. At the end of 1978, total loans outstanding to the subsector by all these institutions amounted to an estimated W 320 billion (US\$552 million).^{/1} About 90% was for operating funds which were supplied mainly by the commercial banks. The bulk of the investment funds were provided by the other institutions. Funds from NACF have largely been confined to investments in their own rice milling plants and animal feedmills, while NFFC funds have supported freezing and cold storage facilities for fisheries. Of the remaining four institutions which have provided the bulk of term financing to processing firms, AFDC is the major source because the other three institutions attach low priority to such lending. Thus, AFDC's share of term lending to the subsector which ranged between 20%-30% prior to 1976 when the first project was approved, has since then increased to about 50%. Also, whereas AFDC's entire medium and long-term lending are for agro-processing, such lending by KDB, KDFC and SMIB accounted for only 0.5%, 4.2%, and 4.9% respectively of their total loans outstanding as of the end of 1978. In addition, AFDC has so far been the only source of equity funds to private processing firms. In the future, AFDC is expected to increase its lending significantly to the subsector whereas the other institutions do not foresee any significant change in the low priority which they accord to such lending.

1.26 Although there is some overlap between the agro-processing financing operations of these institutions, their lending is complementary rather than competitive given the large demand of funds for this purpose and the fact that while AFDC's lending is mainly for food and nonfood processing, that of KDB and KDFC has largely been concentrated on agro-industries more akin to manufacturing such as paper, cigarettes, etc. To the extent that AFDC finances the small- and medium-scale processors, there is also some overlap between its operations and those of SMIB, as the

^{/1} Because the agro-processing subsector cuts across the agricultural and industrial sectors, the resulting definitional problem makes it difficult to accurately estimate statistics relating to the subsector.

latter's financing activities are confined to small and medium size industries. However, this overlap is both beneficial and encouraging, since it increases the flow of funds to such firms which generally have limited access to investment funds.

1.27 The lending rates of the financial institutions vary from about 10% to 19% depending on the terms and purpose of the loans and the source of funds. Interest rates on loans made from special purpose Government funds are at the lower end of the scale while rates on loans made from the institutions' own funds are at the upper end of the scale. Interest rates charged by AFDC are in line with those of the other financial institutions.

D. Previous Bank Lending for Agriculture and Rural Development

1.28 The Bank's lending for the agriculture sector, including rural development, has been aimed at assisting the Government achieve its development objectives for the sector. The Bank has financed 13 projects totalling US\$480.5 million for this purpose of which:

- (a) \$188 million were made available for three irrigation projects (Loan 600-KO, Loan 795-KO/Credit 283-KO, and Loan 1364-KO) for the construction of irrigation works, and land reclamation, consolidation and improvement;
- (b) \$30.5 million for two agricultural credit projects (Credit 335-KO and Loan 1328-KO) for the provision of medium and long-term loans to farmers through their cooperatives to develop orchards, sericulture, on-farm fruit storage, irrigation, greenhouses, poultry and pigs;
- (c) \$22 million for two dairy development projects (Credit 234-KO and Loan 1193-KO) the main components of which are the supply of long-term loans to farmers for the establishment of small and medium size dairy farms, construction of dairy products processing plants, and provision of management and technical services related to these activities;
- (d) \$7 million for a seeds project (Loan 942-KO) which is helping to develop higher yielding varieties of cereal crops, oil seeds, and potato for multiplication and distribution to farmers;
- (e) \$65 million for two area development projects (Loan 1319-KO and 1503-KO) involving the construction of earthfill dams, main and secondary canals, pumping stations, and land development for irrigation, river channels, village access roads, and drainage and irrigation improvements;

- (f) \$13 million for a project (Loan 994-KO) to integrate the on-farm production of export oriented crops with improved processing facilities; and
- (g) \$155 million for two rural infrastructure projects (Loans 1216-KO/1218T-KO and 1530-KO) involving the construction of minor irrigation facilities, roads and bridges, water supply, electric and telephone systems, development of fuelwood blocks, and upland reclamation.

1.29 These projects formed part of high priority Government development programs to (a) expand and improve the productivity of agriculture, principally rice and other foodgrains, diversify production in favor of higher value crops, and increase the supply and quality of processed agricultural products all of which to meet rapidly rising consumer demand, increase exports from the agriculture sector, and raise significantly farmer incomes; and (b) increase the provision of rural infrastructure and amenities to improve the quality of life and standard of living in the rural areas.

2. AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION (AFDC)

A. Purpose and Functions

2.01 Established as a legal entity in December 1967 to assist and promote the development of the agro-processing subsector in Korea, AFDC's major functions as provided by its Articles of Incorporation are to:

- (a) finance equity investment (equity participation), and long and short-term loans for the development of industries producing, storing, processing and marketing agricultural, forestry, livestock and fisheries products;
- (b) provide technical and managerial assistance, training and information for such industries;
- (c) own and operate agro-processing facilities;
- (d) encourage domestic and foreign investments in the subsector;
- (e) undertake and promote the application of advanced technology and research activities;
- (f) develop domestic and export markets for agro-processed products and undertake export agent functions;
- (g) improve the institutional framework for the development of the subsector and provide effective vertical and horizontal integration of primary production, secondary processing and marketing distribution; and

(h) other related activities specifically requested by the Government.

In August 1978, the Government entrusted AFDC with the operation of its Agricultural Products Price Stabilization Program (APPSP) the purpose of which is to stabilize the domestic prices of certain basic agricultural commodities designated by the Government.

2.02 AFDC has an authorized capital of W 10 billion to be funded by the Government which had subscribed W 8.6 billion in several tranches by 1972. The remaining W 1.4 billion is expected to be paid in during 1980.

B. Overview of Past Operations

2.03 Since it began operations in 1968, AFDC has disbursed about W 66 billion (US\$114 million) to the agro-processing subsector of which equity investments accounted for 11%, medium and long-term loans 27%, and short-term loans 62%. Government funds in the form of loans to AFDC and subscription to its capital, and foreign financing, mainly the Bank loan under the first project (Loan 994-KO), provided the resources for these financing activities. Private foreign and domestic investors contributed about W 7.8 billion (US\$13.4 million) towards investments financed by AFDC. AFDC has assisted in financing the establishment and expansion of 71 agro-processing enterprises and 583 farmers to increase the production of export-oriented crops. In addition, AFDC established and operated five agro-processing facilities mainly as pilot operations and to demonstrate the use of improved technology. It has also established facilities to carry out research on agro-processing as part of its provision of technical extension support to private processors. It is estimated that in 1977, output of AFDC-financed facilities accounted for about 25% of the domestic requirements of processed agricultural products and 18% of the exports of such commodities. These facilities generated about 10,000 full-time jobs.

2.04 AFDC's efforts in the initial years of its operations (1968-72) were geared towards: (i) encouraging investors to establish agro-processing enterprises through the provision of financial assistance in the form of equity participation and loans; (ii) establishing modern processing facilities of its own; and (iii) developing export markets. Equity participation which was the main thrust of AFDC's operations, was considered essential to stimulating private investments in agro-processing, since as a newly developing field of investment it was considered riskier than other alternative industrial investment opportunities. Thus 26 agro-processing firms were established during this period with significant equity participation by AFDC (para. 2.14). In financing equity participation the expectation was that AFDC would be able to recycle its funds into other investments by selling its holdings in these companies once they turned profitable. While AFDC's efforts in fostering the development of the agro-processing subsector through establishment of these firms were commendable, the subsequent performance of these firms was far from satisfactory reflecting largely AFDC's lack of

experience in the proper financing of such development. Most of the firms had unprofitable operations and were unable to service their debt. To reduce its exposure and further erosion of its equity funds, AFDC sold its holdings in these companies to private investors by the end of 1972,^{/1} except for its investments in two wholly owned subsidiaries and four other firms. However, this divestiture did not result in any recycling of either its equity or loan funds as originally planned because in order to sell its holdings AFDC had to convert most of them into long-term loans. Thus, with the bulk of its financial resources tied up in the sold-out companies and because of limited availability of new funds, the level of AFDC's financial assistance, especially term loans, declined significantly in the following years until 1976 when AFDC resumed long-term lending on a significant scale with funds provided under the first project.

2.05 During the period of reduced financing operations, AFDC's focus of operations shifted to managing and operating its own processing plants (para. 2.26). In addition, it took over the management of one of its two subsidiaries to improve its operations. These two activities accordingly became the mainstream of AFDC's work. However, during the period of direct involvement in the operation of its processing plants and subsidiaries, AFDC began to perceive that these activities were diverting its attention and resources from its main developmental role which is to assist private processors establish, modernize and expand their operations mainly through the provision of development financing, technical guidance and market support.

2.06 Accordingly, measures were initiated by AFDC in 1976 to enable its operations to be focused on the provision of development financing to private processors. Firstly, AFDC ceased its involvement in the day-today operations of its subsidiary by providing the latter with separate management. Secondly, it commenced the sale of its processing plants, all of which were sold by early 1978. Thirdly, additional loan funds were obtained from the Government and the Bank under the first project which together with the sale proceeds of its plants enabled AFDC to significantly expand its lending to the private sector for the development of agro-processing facilities. Concurrent with this expansion, the quality of lending has improved significantly due mainly to the adoption of appropriate appraisal and other lending procedures instituted under the first project and the accumulated expertise and experience gained from its financing and operation of agro-processing facilities. In 1978 AFDC also discontinued lending to farmers (para. 3.04) to concentrate solely on lending for agro-processing.

2.07 Although AFDC continues to have two wholly-owned subsidiaries, its involvement is limited to overall policy matters. It also intends to minimize its equity investments in the future. Further, while entrusted with

^{/1} Except one which was sold in 1978.

the operation of the Government's Agricultural Products Price Stabilization Program (para. 2.01), AFDC regards the agro-processing operations as its main function.

C. Organization and Management

2.08 Although it is a separate legal entity, AFDC comes under the jurisdiction of the Minister of Agriculture and Fisheries. Its policies and certain important operational matters, viz. annual operating plans and budgets, and the overall number of professional staff to be employed and their compensation, are subject to the Minister's approval.

2.09 AFDC is headed by a President who together with an Executive Vice-President and five Vice-Presidents comprise the Board of Directors. In addition, there is an Auditor with the same status as that of a Vice-President who is responsible for the auditing of AFDC's accounts. The President is appointed for a three-year term by the President of the Republic of Korea on the recommendation of the Minister of Agriculture and Fisheries, who in turn appoints the Executive Vice-President and Vice-Presidents on the recommendation of the President of AFDC for a period of three years. The Auditor is appointed by the Minister of Agriculture and Fisheries in consultation with the Minister of Finance for a period of two years. All these executives may be reappointed.

2.10 AFDC has a head office and four regional offices. It is organized essentially along functional lines corresponding to its two groups of activities, namely, development of agro-processing and price stabilization of agricultural products designated by the Government. The agro-processing operations comprising the development financing and research activities are under the responsibility of three vice-presidents, two of whom supervise the financing activities while the third supervises the Food Research Institute (FRI) which undertakes research on agro-processing. Responsibility for the price stabilization program is shared by the remaining two vice-presidents. In addition, there is an auditing office, which is headed by the Auditor. The detailed organizational structure and functions of the various departments and their divisions are presented in Annex 2 Chart 1.

2.11 At the end of December 1979, AFDC had a total staff of 407 of whom 238 (58%) were professionals and the remaining 169 (42%) were clerical and other staff. The professional staff comprise mainly financial analysts, food technologists, market analysts, engineers and economists. Annex 2, Table 1 provides a breakdown of staff by the various organizational divisions. Of the professional staff, 63% and 25% work directly on price stabilization and agro-processing operations respectively. The remaining 12% work in units supporting these two activities.^{/1} Professional staff working directly on agro-processing operations totalled 58, of which 37 work in FRI and 21 in the

^{/1} These include the Program and Evaluation, General Affairs, and Public Information Divisions and the Auditing Office.

three divisions handling the financing activities. The majority of professional staff are university graduates and are generally of good caliber. All new recruits are given suitable on-the-job training and some professional staff have been sent for external and overseas training.

2.12 Although AFDC was generally overstaffed in the past, this was corrected when AFDC assumed the implementation of the Government's price stabilization program in 1978 and embarked on the expanded lending operations initiated under the first project. The excess staff resulted in part from the reassignment of personnel to AFDC's head office from its processing plants following their sale to private investors. The number of staff working directly on price stabilization is determined by the Government and any changes in their number has to be approved by it. Unless there is a significant shift in the level of operations, AFDC expects this staff to stay around the 1979 level. In any case, the Government bears their full expenses.

2.13 A Project Unit (PU) was established within AFDC in early 1975 to supervise and monitor the implementation of the first project, including the appraisal of individual subloans or subprojects and the provision of technical extension support to subborrowers. Some details on the implementation of the project are given in Section 3 below. The PU would continue this function under the proposed project. However, because the proposed project is substantially larger involving a wide range of processing facilities to be financed, its effective implementation would require the PU to be reorganized and strengthened, the details of which are indicated in paras. 5.01-5.06.

D. Equity Investments

2.14 Between 1968-72, AFDC made equity investments totalling about W 5.2 billion (US\$9.0 million) to enable the establishment of 25 agro-processing companies and a company engaged in the export of processed and related products. Of the agro-processing companies, four were for fruits and vegetables, four for cold storage and freezing, five for sericulture, three for fisheries, three for livestock, and six for nonfood products. Eight companies were AFDC's wholly-owned subsidiaries, and ten had 50% or more and the remaining eight less than 50% of their shareholdings held by AFDC. For reasons indicated in para. 2.04 above, AFDC sold its holdings in 18 companies. It merged three companies with its own processing plants which subsequently were also sold to private investors (para. 2.06).

2.15 Except for the provision of an additional equity investment of W 350 million (US\$0.6 million) to two of the above companies, AFDC did not make any such investments during 1973-78. In 1979, AFDC entered into a joint venture with foreign investors to manufacture baby food products. Presently AFDC has equity participation in six companies, of which two are wholly owned subsidiaries, while in the remaining four its shareholdings ranges from 33-50% (Annex 2, Table 3). These companies have generally been operating profitably in recent years.

E. Loan Operations

Types of Lending

2.16 AFDC's lending consists of short, medium, and long-term loans. Short-term loans are for periods of one year or less and the remaining loans, classified as long-term loans, have repayment periods exceeding one year, typically between 3 and 11 years.

2.17 The main types of short-term loans are as follows:

- (a) Raw Material Procurement Loans. These are made to processors for purchasing designated agricultural commodities (mainly horticultural) for which the Government intends to stabilize prices. Funding for these loans comes from the Ministry of Agriculture and Fisheries' (MAF) Price Stabilization Loan Funds. The loan interest to subborrowers is 12.5%. The maximum loan amount is 70% of the total cost of the raw materials procured. These loans require the prior approval of MAF.
- (b) Working Capital Loans. These loans are made to finance subborrowers' working capital requirements, and are funded by AFDC's own resources. Except in the case of AFDC's subsidiaries, the loan amounts do not exceed 80% of the total working capital requirements. AFDC charges 19% interest for such loans.

AFDC's lending criteria for these loans are based essentially on an assessment of the subborrowers' credit standing and the availability of adequate collateral.

2.18 Long-term loans comprise the following:

- (a) Special Purpose Loans. These are loans made from funds which the Government provides to AFDC on an ad hoc basis. The specific purposes and terms for these loans are determined annually by the Government. The interest rates charged to subborrowers vary from 10.5%-12.5% and the repayment of loans from 4-9 years.
- (b) Equipment Loans. These are loans made from AFDC's own funds for the financing of equipment. They carry an interest rate of 15%-16% and loan maturities of 3-9 years. The maximum amount that can be financed is 80% of the cost of the equipment.
- (c) Bank-Assisted Subloans. Subloans made under the first project carry an interest rate to subborrowers of 12.0% and loan repayment periods ranging from 5-11 years.

2.19 Long-term lending under categories (a) and (b) above which is handled by the Loan and Portfolio Management Division (LPM) has been limited, and most of the loans have been made to AFDC's subsidiaries. The appraisal

methods and procedures for these loans have not been as thorough as those followed under the first project (para. 2.20). However, as AFDC has begun to appreciate the benefits of these appraisal methods and procedures, the LPM division is expected to use them in future.

2.20 Improved appraisal methods and procedures were adopted by AFDC's Project Unit (PU) at the outset of the first project. Following an initial learning period, the present quality of AFDC's analysis of the technical, marketing, financial and managerial aspects of the subprojects has generally been very satisfactory. The PU also undertakes the follow-up and supervision of the subprojects financed. Loan agreements with subborrowers accord AFDC the right to inspect the subprojects and to receive from subborrowers information relating to the financial condition, production, sales and changes in management of the subprojects. The financial and statistical monitoring is supplemented by field visits to subborrowers. Subproject monitoring and supervision, while weak during the early phase of project implementation, has improved significantly in recent years. With the establishment of a technical assistance division under the proposed project, this aspect of AFDC's operations is expected to be further strengthened (para. 5.04).

Volume of Lending

2.21 From the inception of its operations in 1968 to the end of 1979, total loans disbursed by AFDC amounted to W 60.0 billion (\$103 million), of which short-term loans accounted for W 42.4 billion (71%) and long-term loans W 17.6 billion (29%). 22% of the loans were disbursed between 1968-71, 14% between 1972-75 and 64% during 1976-79 as indicated in Table 2.1 below.

Table 2.1: LOAN DISBURSEMENTS DURING 1968-79
(W billion)

	1968-71	1972-75	1976-79	Total
Short-term	7.5	6.4	28.5	42.4
Long-term	5.5	2.0	10.1	17.6
<u>Total</u>	<u>13.0</u>	<u>8.4</u>	<u>38.6</u>	<u>60.0</u>

The fluctuations in lending correspond to the different phases of AFDC's operations (paras. 2.04-2.06).

2.22 Growth of lending during the past four years has been substantial, with disbursements increasing significantly from W 3.1 billion in 1976 to W 7.3 billion in 1977 and W 14.2 billion in 1979. The annual disbursements of short-term and long-term loans during 1975-79 are given in Table 2.2 below.

Table 2.2: ANNUAL LOAN DISBURSEMENTS DURING 1975-79
(W million)

	<u>1975</u>		<u>1976</u>		<u>1977</u>		<u>1978</u>		<u>1979</u>	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Short-term	2,489	84	2,628	84	5,027	69	8,954	64	11,854	84
Long-term	479	16	490	16	2,281	31	5,035	36	2,338	16
<u>Total</u>	<u>2,968</u>		<u>3,118</u>		<u>7,308</u>		<u>13,989</u>		<u>14,192</u>	

2.23 The substantial increases in short-term lending have been due mainly to loans for the procurement of agricultural products for processing, and in long-term lending for the development of existing and construction of new processing facilities and the on-farm development of export oriented crops.^{/1} At the end of 1979, short-term loans outstanding amounted to W 10.2 billion, of which companies with equity participation by AFDC accounted for 33% and other companies the remaining 67%. These two groups of companies accounted for about 14% and 74% respectively and farmers the remaining 12% of the W 12.2 billion long-term loans outstanding.

Sources of Funds

2.24 About 60% of the total lending during 1975-79 has been financed from Government funds, with the Bank and AFDC financing 18% and 22% respectively. While all the Bank funds were used for long-term loans, only about 24% of AFDC's and 9% of Government funds have been used for such loans.

2.25 In allocating its own limited funds, AFDC has concentrated on short-term lending in response to the increasing demand for such funds. The higher interest rates for short-term loans compared to those for long-term loans have also helped AFDC's need to maximize earnings to improve its financial situation.

F. Nonfinancing Operations

Directly Managed Plants

2.26 In order to disseminate new technologies AFDC established five processing plants between 1969-71 which it owned and operated until 1978. One was engaged in the integrated production and processing of mushrooms and was the largest of its kind in Korea at the time of its establishment. Two were multiproduct plants processing a wide range of fruits and vegetables, while the remaining two units were involved in processing hard clams and oyster culture respectively. These plants were sold during 1976-78 after they had

^{/1} Long-term lending declined in 1979 as disbursements under the first project which is nearing completion tapered off during the year.

served their purpose, except for the hard clam facility which was abandoned in 1976 because of contamination problems. The plants were sold for W 3.9 billion which included a capital gain of W 900 million. AFDC does not expect to set up any more directly managed units in the foreseeable future.

Food Research Institute

2.27 Since its inception, AFDC has been undertaking research on food and other agro-processing. In 1973 with the assistance of UNDP, the Government established the Food Research Institute (FRI) /1 within AFDC to: (a) carry out research and development in the field of processing and storage, including product quality control and standardization; (b) conduct the training of technical and management personnel in the agro-processing industry; (c) provide technical assistance to processors; and (d) collect, analyse and disseminate to processors information on new technologies and developments and foreign market requirements. UNDP's assistance provided in two phases helped finance technical experts, pilot plants and laboratory equipment. FRI's operating expenses are borne by AFDC (in 1979, about 20% of AFDC's total administrative costs). Its revenues, however, accounted for only a minor proportion of the costs since the research conducted is for the benefit of the industry as a whole and the fees charged for services rendered to individual processors have been nominal.

2.28 The bulk of FRI's research, technical assistance, and training efforts have been directed towards the needs of AFDC's subsidiaries and affiliated companies. These efforts have been focussed mainly on the development of mushroom production and processing, and have been successful as reflected in the rapid increase in the export of canned mushroom during the past decade. FRI has had limited success in addressing the technical needs of other agro-processing. Lack of clear direction in research and close links with processors, shortage of suitably qualified staff, inappropriate organizational structure and inadequacy of proper laboratory and pilot plant facilities and space were the main factors responsible for the rather narrow concentration of FRI's efforts in the past.

2.29 Measures were initiated in 1979 to strengthen FRI's operations, with financing from the Government and UNDP under its third phase technical assistance program for the Institute. The strengthening includes the construction and equipping of a new research complex, which was completed recently, and the provision of consultants and overseas training for FRI staff. The consultants would assist and train FRI staff in carrying out research on a wide range of agro-processing. To further strengthen its research activities, FRI will increase its professional staff from 37 at present to 50 by the end of 1982, and establish a Research Coordination Committee, consisting of representatives from various related Government agencies, FRI and the agro-processing industry to consider policy matters. In addition, an Industrial Liaison Committee comprising FRI staff and industry

/1 Prior to 1979 FRI was referred to as the Food Processing Center.

representatives will also be established to direct FRI's research and training to meet the needs of the industry. The committee will provide advice on key problems of the industry and promote close relationship and understanding between its members and FRI. All these organizational changes are expected to be completed by early 1981. These efforts and AFDC's renewed commitment to upgrade FRI's operations should result in improving both the quantity and quality of FRI's applied research and technical and training assistance to processors.

Export Market Development

2.30 AFDC has performed a key role in developing export markets for agro-processed products, in particular mushroom exports. In the first decade of its operations it performed export agent functions for a large number of small and medium scale processors,^{/1} besides handling export sales from its own processing plants. In addition it has conducted overseas market intelligence and research activities. This service, while limited, has been beneficial to processing firms in developing their export sales. By 1972 AFDC had developed export outlets for 30 types of products in 14 countries. Major items were canned mushrooms, ginseng, leaf tobacco and seaweed laver. In the early 1970s, a significant share of the total exports of mushroom and ginseng was handled by AFDC. As a result of the expansion in the number and size of operations of the private companies involved in the export of processed goods and with the larger processors increasingly handling the export of their own products, AFDC gradually relinquished its role as a major export agency. AFDC's export market development work in recent years has been mainly limited to market research and intelligence. It is planning to strengthen this function and is working towards publishing a market outlook report on a regular basis.

Price Stabilization Operations

2.31 The Governments' buffer stock operations to stabilize the prices of farm produce (excluding foodgrains) basic to the food needs of consumers was assigned to AFDC in August 1978. AFDC's role in this activity is essentially that of an agent for the Government. All decisions regarding the types, quantities and timing of products to be procured and released to the domestic market, prices to be paid to farmers, and the number of AFDC staff required to carry out the buffer stock operations are made by the Government. The actual procurement and grading of produce are undertaken by the National Agricultural Cooperative Federation and the National Federation of Fisheries Cooperatives for domestically produced items, and by the Government's Office of Supplies (OSROK) for imported agricultural commodities. AFDC's main function is to store the buffer stocks and transport the commodities to and from its warehouses to marketing centers. For the purpose of proper storage, 21 Government warehouses were made available to AFDC which are being renovated and converted into cool storages. AFDC established four regional offices, one each in

^{/1} AFDC acted as a consignment agent for these processors.

Seoul, Taegu, Pusan and Kwangju to operate the warehouses and implement the program in the field. AFDC is also constructing a multipurpose processing plant which would only process those stored items that would spoil if they continue to be stored as raw materials. The output of this plant would be auctioned to wholesalers. The cost of the buffer stock operations is fully underwritten by the Government. In 1979, AFDC disbursed about W 44.6 billion (US\$77 million) for procurement of about 52,000 tons of commodities.

G. Financial Position and Performance

Financial Position

2.32 As indicated by the summarized balance sheets for 1975-79 shown in Annex 2, Table 5, AFDC's total assets increased substantially from W 15 billion in 1975 to W 37 billion in 1979, reflecting mainly the rapid expansion of its lending and price stabilization operations. Most of the increase in assets barring its price stabilization funds were financed by domestic and foreign currency borrowings, both short-term and long-term. Of the assets at the end of 1979, long-term loans accounted for 32%, short-term loans 28%, funds for price stabilization 14%,^{/1} investments 13%, and other assets the remaining 13%. Borrowings financed about 56% of the assets, AFDC's equity 25%, price stabilization funds from the Government 14% and other liabilities the remaining 5%. About half the long-term borrowings (54% of total borrowings), used mainly to finance the development of agro-processing and related facilities, is from the Bank, which has assumed a central role in financing this most important aspect of AFDC's operations.

Financial Performance

2.33 Summarized income and cash flow statements for the period from 1975 through 1979 are shown in Annex 2, Tables 4 and 6. Prior to 1976, AFDC's major source of revenues was sales of processed products from its own processing plants. After the disposal of these plants, interest income from a rapidly expanding lending operation and funds provided by the Government to pay the administrative costs of the price stabilization program (price stabilization administration funds) became the main sources. Total revenues amounted to W 3.1 billion in 1976, W 3.5 billion in 1977, W 2.7 billion in 1978, and W 4.6 billion in 1979. The decline in 1978 was due to the cessation in the sales of processed products resulting from the disposal of AFDC's processing plants and which had only been partly offset by the increase in interest income and the provision of price stabilization administration funds from the Government. Of the total revenues in 1979, interest income accounted for about 52%, price stabilization administration funds 42%, dividends 3%, and income from sales of processed products ^{/2} the remaining 3%.

^{/1} These funds are deposited in AFDC's account in the Bank of Korea.

^{/2} Sales of processed products for which AFDC acted as consignment agent.

2.34 Annual net income losses were incurred by AFDC during 1975-78. The losses were due to reduced profit margins and the decline and eventual cessation in the sale of processed goods, high administration expenses resulting from excess staff and other overhead costs, and operating deficits and foreign exchange losses incurred by the first project. These adverse factors were however, corrected in 1979 by the operations of the price stabilization program which fully absorbed the excess staff and overhead costs, the slower increase in operating costs, and the fact that the first project's operations had begun to turn profitable (para. 2.35). Mainly as a result of these favorable developments AFDC was able to achieve a net income of W 617 million in 1979. AFDC has projected that its operations in the next five years 1980-84 would be profitable as indicated in Annex 2, Tables 10-13.

2.35 The first project sustained net operating losses of W 99 million in 1975, W 180 million in 1976, and W 109 million in 1977 because of the slow progress in lending which accordingly did not generate sufficient interest income to cover the project's implementation costs. However, as lending began to expand significantly following the widening of the project scope in late 1977 (para. 3.03), the net operating loss declined substantially to W 6 million in 1978. With the continued acceleration of lending in 1979, the project recorded for the first time, a net income of W 50 million for the year.

2.36 A summary of AFDC's loan collections and ageing of arrears is given in Annex 2, Tables 7, 8 and 9. Total arrears as of the end of 1979, amounted to W 295 million or 1.3% of total loans outstanding compared with W 243 million and 1.4% respectively at the end of 1978. All the arrears in both these years were accounted by long-term loans as there were no arrears on short-term loans. The collection rate of long-term loans amounted to 90% in 1979 compared with 88% in 1978. Of the arrears at the end of 1979, about 38% were less than six months old, 30% six to 12 months, and 32% over 12 months. Overall, AFDC's loan portfolio is sound considering the satisfactory collection rate and the low level of arrears.

2.37 AFDC increased its accumulated provision for doubtful loans from W 130 million at the end of 1978 to W 333 million in 1979 which would account for about 1.5% of the outstanding short- and long-term loan portfolio. The additional provisions were made in light of the expectation that some arrears will emerge in the future, since about 25% of the outstanding long-term portfolio in 1979 is still in the grace period, and the number of clients and loans has increased significantly in recent years. With total arrears of about W 295 million at the end of 1979, this level of provisions would be adequate. AFDC's provision in the past have been satisfactory as certified by its external auditors.

2.38 Based on the Government's Invested Enterprise Budget Accounting Act, AFDC's accounting system is basically sound. However, the accounting and management information did not allow AFDC to properly and accurately evaluate the performance of its individual operating units and activities. A study to strengthen AFDC's accounting and management information systems was

financed under the first project, and was completed in September 1976. Major recommendations of the study were (i) the introduction of monthly and quarterly management reports; (ii) streamlining of existing reports; (iii) provision of product cost information for AFDC's processing plants;^{/1} (iv) preparation of medium and long-term financial forecasts; and (v) measures to improve the internal aspects of budgetary control, accounting procedures, and internal audit function. AFDC has been implementing the recommendations gradually after they have been modified to conform to the provisions of the above Act.

2.39 AFDC's accounts have been audited by external auditors as required under the first project. The audit has been satisfactory and would be continued under the proposed project (para. 5.13). In addition, the accounts are audited by its internal auditor in accordance with the provisions of the Government's Invested Enterprise Budget Accounting Act which all Government sponsored agencies are required to follow. The internal auditors also undertake annually a full audit of AFDC's subsidiaries. The internal audit functions have also been strengthened based on the recommendations of the above study.

3. THE FIRST PROJECT (INTEGRATED AGRICULTURAL PRODUCTS PROCESSING PROJECT - LOAN 994-KO)

3.01 The first project, now nearing completion, formed part of the Government's program for the development of the agro-processing subsector under the Third Five-Year Development Plan (1972-76). It provides long-term funds to AFDC for:

- (a) onlending to subborrowers in the private sector to develop and modernize: (i) on-farm production of asparagus, mushroom, and oak mushroom (shiitake); and (ii) canneries, drying plants, and freezing/cold storage facilities for the processing of these crops as well as other vegetables and fruits comprising mainly strawberry, spinach, chestnut, and peach; and
- (b) technical assistance required by AFDC to implement the project effectively and to improve its accounting and financial management systems.

Total project costs were estimated at US\$20.0 million, of which the Bank financed US\$13.0 million (65%) equivalent to the foreign exchange costs, AFDC US\$3.2 million (16%), and subborrowers US\$3.8 million (19%).

3.02 The four-year project became effective in March 1975 and funds were fully committed by the end of July 1979. Table 3.1 below compares actual project commitments with those envisaged during appraisal.

^{/1} With the disposal of these plants this recommendation is no longer relevant.

Table 3.1: ACTUAL AND APPRAISAL ESTIMATES OF PROJECT FUND COMMITMENTS

	Appraisal (US\$ million)	Actual
On-farm development	4.7	3.4
Processing facilities	11.0	12.3
Technical assistance	0.5	0.5
<u>Total /a</u>	<u>16.2</u>	<u>16.2</u>

/a Amounts indicate project funds provided by the Bank and AFDC.

Details on the investments financed are given in Annex 1. The project funds are expected to be fully disbursed by the end of March 1980. Disbursements by AFDC as of December 31, 1979 amounted to about \$15.7 million.

3.03 Two significant changes took place during project implementation. Firstly, the project scope was widened in September 1977 to enable AFDC to finance a broader range of agro-processing facilities than was envisaged during appraisal. Implementation of the project had been delayed because of slow progress in lending for the facilities originally covered by the project, which was aggravated by the depressed state of foreign markets for processed foods during 1975, a period of worldwide economic recession following the energy crisis in late 1974. Under the revised project scope, AFDC could finance facilities for the processing (essentially canning) and cold storing of fish, meat, fruits, vegetables, fruit juice extraction and concentration, and vegetable preservation, including pickling and drying, for which there was substantial loan demand. Following the inclusion of these facilities in the project, the loan amounts approved increased significantly and project implementation has been progressing satisfactorily. In all, AFDC provided 44 subloans for a wide spectrum of processing facilities for modernization, expansion and new construction.

3.04 Secondly, AFDC discontinued lending to farmers in 1978, as it became increasingly clear that its organizational structure and operations, set up for the purpose of promoting agro-industries, were not suited for effective lending to farmers.^{/1} With the cessation of these activities, AFDC intends to concentrate its efforts and resources on the financing of processing facilities only. For on-farm development, AFDC provided 583 subloans for expanding the production area of mushrooms, asparagus and oak mushroom

^{/1} These activities have been, and are being, financed efficiently by the National Agricultural Cooperative Federation (NACF). The Bank has successfully financed two agricultural credit operations for on-farm development through NACF, of which the second is nearing completion.

by about 25 ha, 59 ha, and 35,600 cu m respectively. The areas financed are 63%, 14% and 148% of those envisaged at appraisal. AFDC attributed the lack of loan demand for asparagus production to disease problems afflicting the crop, and farmers' reluctance to develop a relatively new crop in the cultivation of which they lack sufficient experience. Farmers' preference for peanut cultivation, a familiar and profitable alternative crop was reportedly another dampening factor. The shortfall in lending for mushroom was due to the uncertain export market for canned mushroom.

3.05 It is still too early to evaluate the project's benefits and impact. However, AFDC's appraisals of the individual subloans indicated financial rates of return ranging from about 18% to 63%. The project also has had significant institution-building effects on AFDC, particularly with regard to the quality of appraisal and strengthening of the accounting and financial management systems. Thus, the appraising of project investments in terms of their technical feasibility and financial viability based on incremental returns, and regular supervision of project investments during their implementation, have both become AFDC's standard lending practices.

4. THE PROJECT

A. Objectives

4.01 The project would be a continuation and expansion of the development program for agro-processing financed under the first project (Integrated Agricultural Products Processing Project - Loan 994-K0). It would provide medium and long-term loans to the private sector through AFDC for investments in agro-processing facilities, and funds for technical assistance to AFDC. The project would support a three-year lending program which would be part of a high priority Government effort to increase income and employment in the rural areas by augmenting the value added, expand production and exports from the agriculture sector, and increase the supply and quality of processed foods to consumers.

B. Description

4.02 The project would support investments in the entire agro-processing subsector. Its scope and size are based on a recent study by consultants which projected the investment needs of the subsector during the period 1980-1985, the loan demand for such investments indicated by potential subborrowers to AFDC, and the lending program proposed by AFDC taking into account its loan processing capacity. During the three-year project period 1980/81 - 1982/83, the subsector's investment needs are estimated to be about US\$375 million, of which the project would finance about 22%. Projected lending by financial intermediaries other than AFDC indicate that they plan to finance about one-third (33%) of the investment needs, with the remaining 45% expected to be financed by other private sources, mainly the processors themselves.

4.03 A wide variety of agro-processing enterprises are expected to apply for financing under the project. These would include freezing and cold storage, canning, drying, pickling and other preservation of fruits, vegetables, meat, and fisheries products, oil seed extraction, grain based foods (e.g. noodles), fruit juice based beverages, dairy processing, animal feeds mainly for pigs and poultry, and raw silk spinning. All of these enterprises have been identified in the consultant study (para. 4.02) and by AFDC as having good prospects for expansion. The project would finance improvements to existing facilities and the construction and equipping of new facilities. Investments would be undertaken by the private sector. Project funds are expected to generate an estimated 110 - 120 subloans. For the bulk of the subloans, amounts would range from about US\$150,000 to US\$1.0 million equivalent although there will be a few subloans outside this range.

4.04 The project would also provide a technical assistance component mainly for the strengthening of AFDC's Project Department so it can implement the project effectively and provide the necessary technical extension and market support to processors. Funds for technical assistance would be used for training abroad of the Project Department's technical staff, to obtain short-term foreign expertise to assist the Department in resolving specific agro-processing problems where local expertise is not available, and for market studies and the introduction and implementation of new or improved technology (e.g. purchase of equipment to test new processing techniques to be carried out by AFDC's Food Research Institute). Approximately 30 man-months of short-term foreign expertise would be required at a total cost of about US\$300,000. The average man-month cost of the experts (individuals' fees, international travel, and local allowances), whose assignments would range from a few weeks to several months, is expected to be about US\$9,500. The total estimated cost also includes provision for the cost of vehicles, local travel and other minor items. The training abroad of the Project Department technical staff would consist mainly of short-term visits to processing plants outside Korea for on-the-job training.

C. Costs and Financing

4.05 The total cost of the project is estimated at W 48,600 million of which about 60% or W 28,980 million would be the foreign exchange costs. A summary of the costs by subprojects, based on the various possible investments and their estimated costs given in the consultants' report noted above and by AFDC's potential subborrowers, is given in Table 4.1 below.

Table 4.1: SUMMARY OF PROJECT COSTS

	Local (W million)	Foreign	Total	Local (US\$ million)	Foreign	Total	Foreign (%)
Freezing and cold storage	5,480	7,010	12,490	9.4	12.1	21.5	56
Other processing	8,580	12,820	21,400	14.8	22.1	36.9	60
Technical assistance	-	300	300	-	0.5	0.5	100
Base costs	<u>14,060</u>	<u>20,130</u>	<u>34,190</u>	<u>24.2</u>	<u>34.7</u>	<u>58.9</u>	<u>59</u>
Physical contingency	1,410	1,980	3,390	2.4	3.4	5.8	
Expected price increases (29%)	4,150	6,870	11,020	7.2	11.8	19.0	
<u>Total</u>	<u>19,620</u>	<u>28,980</u>	<u>48,600</u>	<u>33.8</u>	<u>50.0</u>	<u>83.8</u>	<u>60</u>

The freezing and cold storage and other processing subprojects include a 10% physical contingency. In addition, a price contingency of 29% has been added to the subprojects and technical assistance component. The contingency is based on the expected price increases shown in Table 4.2 below on the estimated amounts that would be disbursed during the project period (para. 4.11).

Table 4.2: EXPECTED % PRICE INCREASES

	1980	1981	1982	1983	1984
Local costs	9	8	8	8	8
Foreign costs	10.5	9	8	7	7

4.06 Of the total project cost of US\$84 million, subborrowers would finance US\$21 million (25%), AFDC US\$13 million (15%), and the Bank US\$50 million (60%) which is equivalent to the foreign exchange costs.

D. Implementation Schedule

4.07 Project subloans would cover a three-year commitment period commencing in the latter part of 1980. Since the last set of agro-processing

facilities financed are expected to be completed towards the end of 1983, total project funds would be fully disbursed by mid-1984. Estimated disbursements over the four-year period 1981-1984 are indicated in para. 4.11.

E. Procurement

4.08 AFDC's procurement procedures and arrangements are considered satisfactory and are generally in line with those of the DFCs in Korea. The procedures are designed to ensure that the items are procured with due regard for economy and efficiency. AFDC generally requires borrowers to procure through local competitive bidding or prudent shopping using the three-bid method, depending on the type of items and the amounts involved. Purchase off the shelf may also be permitted where appropriate, normally for small items or if it is cost effective. The merits of the various bids are evaluated jointly by the borrower and AFDC and the final bid and award of the contract is subject to the latter's approval. AFDC usually helps the borrower in preparing bids and invitations for bidding, and supervises the opening of bids. There are many local suppliers of agro-processing equipment, including facilities to service them, and competent civil works contractors. Foreign equipment suppliers are likewise adequately represented, mainly through local agencies. Both suppliers of foreign and local equipment provide technical assistance for the proper installation and operation of their equipment, and competition among them is keen. Under the first project, procurement by borrowers has generally been economical and efficient, and an estimated two-thirds of the equipment procured is of foreign origin, reflecting in many cases borrower choice of foreign equipment.

4.09 In view of the above, use of AFDC's procurement procedures and arrangements would be appropriate for the project. It is expected that the project's procurement would be through local competitive bidding, the three-bid method of prudent shopping, and purchase off the shelf, which would be allowed only in the case of improvements to existing processing facilities requiring minor equipment items. For the construction and equipping of large processing facilities where the design of the building would need to closely fit the layout of the equipment for efficient operations, AFDC may require the use of turnkey contracts. Facilities which require such contracts are mainly meat and dairy processing. AFDC would ensure that all the procurement documents would be available for review by the Bank's supervision missions.

4.10 The training abroad of the technical staff of AFDC's Project Department and the recruitment of foreign experts, including their terms and conditions of employment, would be undertaken with the approval of the Bank.

F. Disbursements

4.11 Estimated disbursements of the proposed Bank loan of US\$50 million are expected to extend over a four-year period as follows:

	<u>US\$ million</u>
1981	15
1982	17
1983	14
1984	4
	<u>50</u>

Disbursements against the loan proceeds would be as follows:

- (a) 79% of subloans made by AFDC.
- (b) 100% of foreign expenditures for technical assistance.

Reimbursement applications under the subloans would be supported by a statement of expenditures accompanied by a list of subloans made. The actual supporting documentation would be kept by AFDC and made available to Bank staff for review during supervision missions. Disbursements for technical assistance would be fully documented (bills or invoices and evidence of payment where applicable). Contract documents for foreign experts and training programs for AFDC's staff would be submitted to the Bank for approval.

G. Environmental Impact

4.12 To protect and improve the quality of the environment, effluents and other wastes from agro-processing plants are required by law to be properly treated before they can be discharged. Regulations and standards for this purpose are being enforced by the Ministry of Health through regular inspections of existing plants to ensure their compliance. Processors who do not comply within stipulated periods are subject to heavy penalties imposed by the Ministry. Processing plants financed under the project are not expected to have any adverse impact on the environment since they cannot be established without devices for the proper treatment of wastes.

5. PROJECT IMPLEMENTATION

Organization and Management

5.01 The Project Unit (PU) established by AFDC to supervise and monitor the implementation of the first project (Loan 994-KO), including the appraisal of individual subloans or subprojects, would continue this function under the proposed project. Although the PU is a component of the General Affairs Department, its manager reports directly to one of AFDC's vice presidents, who is in charge of several departments. The PU's implementation of the first project has been satisfactory. However, for effective implementation of the proposed project it would be necessary to strengthen the PU in

view of the need to provide adequate technical extension and market support to processors, especially those involved in operating small- and medium-size facilities, and also since the project is substantially larger and a wide range of processing facilities are to be financed (para. 5.02).

5.02 Under the proposed project, the PU would be expanded and upgraded to that of a Project Department (PD) which would be headed by a Manager (Annex 2, Chart 2). The PD would have three divisions - Appraisal, Technical Assistance, and Credit Administration with a total staff of 30 comprising 26 suitably qualified professionals and four support staff.

5.03 The Appraisal Division would be responsible for appraisal of the subprojects. It would have a total of 14 staff comprising (a) five agro-processing specialists in freezing and cold storage (1), canning (1), other food processing (1), nonfood processing (1) and civil engineering (1); (b) five financial analysts; (c) three marketing specialists in agricultural processed products; and (d) one economist. This complement of expertise would be required for the proper appraisal of the number of subprojects envisaged (para. 4.03). The appraisal procedures would be the same as those followed under the first project, which include undertaking field investigations to assess the capability and financial standing of the subborrowers and competence of their technical staff, suitability of the subproject sites in terms of their adequacy for the processing plants and location, availability of raw material input, and other related matters. Project investments would be evaluated in terms of their technical feasibility and financial viability based on incremental returns.

5.04 The Technical Assistance (TA) Division would comprise two agro-processing experts, two processing engineers and a marketing specialist who would undertake regular field visits to supervise processing facilities financed by the project, including the provision of technical extension and market support to subborrowers and other processors. The technical extension and market support would include assistance to processors to (a) raise the productivity of their processing facilities through better techniques and methods of production, utilization of machinery and plant layout, (b) improve quality control of both the raw material input and processed output, (c) resolve processing problems, and (d) market their output. The division's technical extension efforts would be reinforced by expert advice from AFDC's Food Research Institute (para. 2.27). In collaboration with the Appraisal Division, it would also undertake feasibility studies, market research, and other studies relating to the needs and prospects of the agro-processing subsector.

5.05 The Credit Administration Division would consist of seven professional staff and four support staff. Of the professional staff, two would handle matters relating to collateral, four credit administration and supervision, and one project monitoring and reporting.

5.06 AFDC is in the process of upgrading and expanding the present Project Unit to that of a Project Department as proposed above, and has indicated that only suitably qualified staff would be appointed to the various positions. The establishment of the PD along lines acceptable to the Bank would be a condition of loan effectiveness.

Subloan Terms and Conditions

5.07 Although an illustrative allocation of the project funds for freezing/cold storage and other processing is indicated in para. 4.05, AFDC would be able to use the funds on a completely flexible basis for various types of agro-processing enterprises, subject only to the lending limits indicated in paras. 5.08 and 5.09 below. This would enable AFDC to respond promptly and effectively to changes in demand as they may occur.

5.08 Under the first project, individual subloan amounts in excess of US\$200,000 required the Bank's prior approval. In view of the experience gained by AFDC in its appraisal of subloans above the free limit which has proved to be satisfactory, it is proposed that the free limit be raised to US\$500,000 for the proposed project. It is estimated that about two-thirds of the total number of subloans would be below the free limit. All subloans above the free limit (about 40) which would include an economic rate of return analysis would be sent to the Bank for its review and approval. The Bank would consider raising the free limit during the course of project implementation, as AFDC demonstrates its capacity to appraise even larger subloans.

5.09 The maximum size of a subloan will not exceed US\$2 million since this amount and the subborrower's contribution would be sufficient to cover the investment cost of most processing facilities. The Bank may, however, consider financing larger subloans but only for a few exceptional cases. The ceiling on subloans would also enable a wider distribution of project funds. To avoid a significant concentration of large subloans and help finance the investment needs of medium and small processors, lending to large processors would not exceed 40% of the total project funds with the remaining 60% or more earmarked for lending to medium and small processors. The Government's definition of large and medium/small processors which is based on total assets or employment size would be used for this purpose. Processors with more than W 500 million total assets or employment exceeding 300 are considered large, and those with lesser amounts of total assets or number of employees are medium/small processors. As under the first project subborrowers would bear the foreign exchange risks.

5.10 The lending rate to subborrowers will not be less than 12% per annum. The actual rate would be determined by the weighted average cost of AFDC's borrowings from the Bank and the Government plus a 3% interest spread required by AFDC to cover its administrative costs. While the interest rate on the Bank loan would be 8.25% p.a., the interest on the Government loan to cover AFDC's share of the total project cost would be determined from time to time by the Government in consultation with the Bank. In determining the

interest rate on the Government loan, account would be taken of the need to (a) provide a 3% interest spread to AFDC over the cost of its total project funds, and (b) ensure that the lending rate to subborrowers remains competitive with those charged by the other Government-sponsored financial institutions for similar type of loans. The Government's loan of US\$13 million to AFDC would be for a period of 11 years, including 3 years grace, as under the first project, and would be provided as and when required by AFDC.

5.11 Except as the Bank shall otherwise agree, subsidiaries and affiliated companies of AFDC would not be eligible to borrow under the project. This is mainly to avoid any possible conflict of interest, and also because direct Government funding of these companies through AFDC has been, and would continue to be, available to meet their investment requirements.

5.12 The repayment periods of the subborrowers will be determined by AFDC's cash flow estimates of their subloans. For typical subprojects, their cash flow estimates indicate an average repayment period of about 12 years, including 3 years grace. Based on these estimates and given that the project funds would be disbursed over 4 years, the cash flow estimated for the project as a whole indicates that AFDC would require a repayment period of 16 years, including 3 years grace.

Accounts and Audit

5.13 As required under the first project, AFDC's accounts have been audited by independent auditors acceptable to the Bank. The audit has been satisfactory. This requirement would be maintained under the proposed project. AFDC would maintain a separate account for the project which would be audited annually and sent to the Bank, together with a copy of the audited balance sheets and income statements covering its total operations within four months after the close of each financial year. The annual audit report would include the auditors' opinion as to whether the project funds on the basis of AFDC's statement of expenditures have been used for the purpose for which they were provided. AFDC would also forward to the Bank quarterly reports covering the project's progress within two months following the end of each quarter. Past reporting by AFDC has been comprehensive and timely.

6. BENEFITS AND JUSTIFICATION

6.01 Major benefits expected from the proposed project would include:

- (a) reduction in wastage of farm produce from spoilage and loss, especially of perishables, through the provision of additional processing capacity, including freezing and cold storage, and improved efficiency of processing;

- (b) increased supplies, better quality and larger variety of processed foods and other agricultural products throughout the year which would help meet the growing domestic consumption and export demand for such products, improve the national diet, and assist in dampening the significant supply and price fluctuations of farm produce, especially fruits, vegetables and other perishables, during the off season periods. The supply of processed products at generally lower costs would be an additional benefit to consumers;
- (c) raising significantly the productivity of labor involved in processing which has become increasingly essential in view of the rapidly increasing costs and tightening supply of labor. The increase in labor productivity is expected to range from about 16% for canning to 32% for the processing of animal feeds which are based on a comparison of the estimated per worker output of existing plants using a lower level technology and those with more advanced technologies;
- (d) creation of some 5,000 jobs in processing at an estimated cost of about US\$17,000 per job, temporary employment for workers constructing the processing facilities, and indirectly, additional employment for farmers (particularly some off-season employment) as well as other workers engaged in selling the processed products produced. The benefit to farmers would come from increased demand for farm produce through the widening of their market opportunities which in turn would result in higher prices and increased production, employment and incomes; and
- (e) increased value added, total employment, export earnings and import substitution for the economy.

In addition, the project would strengthen the institutional capability of AFDC, especially with regard to its provision of financial and technical assistance for the proper development of agro-processing, including the establishment of closer links with medium and small size processors many of whom have limited technical know-how and access to medium- and long-term credit. Rough estimates indicate that the anticipated project facilities at full development would freeze, cold store and process a wide variety of agricultural, livestock and fishery products valued at some W 282 billion (US\$486 million) annually at present prices.

Financial and Economic Rates of Return

6.02 Specific subprojects to be financed under the project have not yet been identified. However, the indicative overall financial rate of return (FRR) for the types and number likely to be financed is estimated at about 24% based on typical models (plants) for each of the subprojects. The FRR for the models range from 21% to 37% as follows: meat processing 21%, freezing and cold storage 22%, canning 23%, animal feed processing 23%, raw silk spinning

25%, chill storage 26%, fruit juice based beverage 29%, drying 31%, pickling and other related preservation 35%, and dairy processing 37%. Adjusting the expected investment and operating costs for tariffs and taxes and using imported prices wherever available in place of domestic prices, the estimated economic rates of return (ERR) for the typical models indicated above ranged from 16% to 27% with an overall ERR of about 21%.

Risks and Sensitivity Analysis

6.03 The project is not expected to incur any significant risk. Output from the project would account for only a minor proportion of their projected demand which, moreover, would mainly be for the domestic market which is assured. Only raw silk which has been subject to uncertain and adverse changes in foreign demand in the recent past would incur some risks, although this would be insignificant since its share in project investments is expected to be small and domestic consumption of this commodity has been increasing significantly in recent years. As the technological improvements envisaged under the project are already being used by the more efficiently operated plants, the required technical know-how is accordingly readily available and the risks in this regard would likewise be minimal.

6.04 Sensitivity tests indicate that a 20% increase in the investment and operating costs would reduce the overall FRR from 24% to 19% and the ERR from 21% to 15%. The subprojects will remain financially viable even if their output prices at present levels decline by 15%, but a decline of this magnitude is not expected.

7. AGREEMENTS REACHED AND RECOMMENDATION

7.01 During negotiations agreement was reached that:

- (a) Subloans would have a free limit of US\$500,000 and all subloans exceeding this amount would be sent to the Bank for review and approval (para. 5.08).
- (b) The maximum size of a subloan will not exceed US\$2 million, although the Bank may consider financing larger subloans in a few exceptional cases (para. 5.09).
- (c) Lending to large processors would not exceed 40% of the total project funds with the remaining 60% or more earmarked for lending to medium and small processors. The Government's definition regarding the size of processors would be used for this purpose (para. 5.09).
- (d) The lending rate to subborrowers will be at an annual rate of interest of not less than 12% (para. 5.10).

- (e) The Government's loan of US\$13 million to AFDC, at an annual interest rate to be determined from time to time by the Government in consultation with the Bank, would have a repayment period of not less than 11 years, including 3 years grace, and would be provided as and when required by AFDC. In determining the interest rate on the Government loan, account would be taken of the need to provide a 3% interest spread to AFDC over the cost of its total project funds, and ensure that the lending rate to subborrowers remains competitive with those charged by the other Government-sponsored financial institutions for similar type of loans (para. 5.10).
- (f) Except as the Bank shall otherwise agree, subsidiaries and affiliated companies of AFDC would not be eligible to borrow under the project (para. 5.11).

7.02 The establishment of the Project Department along lines acceptable to the Bank would be a condition of loan effectiveness (para. 5.06).

7.03 The project is suitable for a Bank loan of US\$50 million equivalent, with a term of 16 years, including 3 years grace.

KOREA

AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Subloan Approvals Under the First Project (Loan 994-KO)
as of December 31, 1979

		<u>Loan approvals</u>	
		<u>Number</u>	<u>W million</u>
<hr/>			
I.	<u>On-Farm Development</u>		
	Mushroom growing houses	90	933.6
	Oak mushroom	430	695.3
	Asparagus	63	46.1
	Subtotal	<u>583</u>	<u>1,675.0</u>
II.	<u>Processing Facilities</u>		
	Mushroom canneries	9	305.6
	Integrated canneries	8	614.1
	Freezing and cold storage	16	3,290.0
	Agricultural products		
	drying and preservation	10	1,180.0
	Fruit juice extraction	1	541.5
	Subtotal	<u>44</u>	<u>5,931.2</u>
III.	<u>Technical Assistance /a</u>		203.2
	<u>Total</u>	<u>627</u>	<u>7,809.3/b</u>

/a Expenditures incurred by AFDC.

/b Subtotals do not add up due to rounding.

KOREA

AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

A. Staff Levels

	1975	1976	1977	1978	1979
Executives	6	6	6	7	8
Managers	15	13	11	15	10
Professional staff	206	194	145	240	220
Subtotal	<u>227</u>	<u>213</u>	<u>162</u>	<u>262</u>	<u>238</u>
Clerical and labor	103	87	49	105	169
Total	<u>330</u>	<u>300</u>	<u>211</u>	<u>367</u>	<u>407</u>
Professional staff leaving during year	16	30	113	25	44
Professional staff joining during year	15	16	62	125	20

B. Types of Professional Staff in 1979 /a

Functional Units	Financial analyst	Food technologist	Engineer	Marketing specialist	Economist	Other	Total	%
Financing operations	10	3	-	3	5	-	21	9
Price stabilization	31	37	19	26	16	15	144	63
Food Research Institute	-	27	4	-	1	5	37	16
Support	12	1	3	4	4	4	28	12
Total	<u>53</u>	<u>68</u>	<u>26</u>	<u>33</u>	<u>26</u>	<u>24</u>	<u>230</u>	<u>100</u>

/a Including managerial staff.

KOREA

AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Lending Terms and Conditions by Source of Funds

Source	<u>Onlending terms</u>		<u>Borrowing terms</u>	
	Interest rate	Repayment	Interest rate	Repayment
<u>Short-Term Loans</u>				
1. MAF Price Stabilization Funds	10.5%	6-8 mos.	7.5%	1 year
2. Agriculture Development Fund	12.5%	1 year	12.5%	1 year
3. Internal funds	19.0%	1 year	-	-
<u>Long-Term Loans</u>				
1. Fiscal funds	10.5%	6-9 years	3-5%	6-9 years
2. Livestock Development Fund	11.0-12.5%	4-5 years	10.5-12.5%	4-5 years
3. Agriculture Development Fund	12.5%	4-5 years	12.5%	4-5 years
4. IBRD	12.0%	5-11 years	7.6%/a	8-20 years
5. Internal funds	15.0-16.0%	3-9 years	-	-

Comparable Interest Rates /b

	<u>AFDC</u>	<u>KDB</u>	<u>SMIB</u>	<u>Commercial banks</u>
<u>Short-Term</u>				
Internal funds	19.0%	18.5-19.0%	18.5-19.0%	18.5-19.0%
<u>Long-Term</u>				
Internal funds	15.0-16.0%	15.0-17.0%	18.5-19.0%	18.5-20.5%
IBRD	12.0%	9.5%	9.9%	

/a Blended rate of Government loan at 9% (for 8 years) and IBRD loan at 7.25% (for 20 years).

/b As of June 30, 1979.

KOREA

AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Equity Investments /a
(as of December 31, 1979)

Name of Company	Paid in capital (W million)	Shareholdings (%)		
		AFDC	Foreign investors	Local investors
Korea Cold Storage Co.	2,063	100	-	-
Hankook Trading	235	100	-	-
KORTEC	304	39	58	3
Korea Dairy Beef Co.	1,220	40	-	60
Ho Nam Silk Industries	723	25	-	75

/a Excluding investment in Han Suh Food which is under construction.

KOREA

AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Income Statement, 1975-79 /a
(in million Won)

	1 9 7 5		1 9 7 6		1 9 7 7		1 9 7 8		1 9 7 9	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Revenues										
Sales	2,893	81	2,360	81	2,585	74	547	20	132	3
Financial:	686	19	761	19	919	26	1,656	61	2,548	55
Interest income	618	17	673	17	852	24	1,564	58	2,411	52
Dividend	68	2	88	2	67	2	92	3	137	3
APPSP Compensation	-	-	-	-	-	-	526	19	1 924	42
Total Revenues	3,579	100	3,121	100	3,504	100	2,729	100	4,604	100
Operating Expenses										
Cost of goods	2,623	73	1,997	64	2,048	58	512	19	138	3
Interest expense	381	11	387	12	624	18	938	34	1,487	32
APPSP direct expense	-	-	-	-	-	-	84	3	435	10
Total	3,004	84	2,384	76	2,672	76	1,534	56	2,060	45
Gross Operating Profit	575	16	737	24	832	24	1,195	44	2,544	55
Administrative Expenses										
Personnel	359	10	358	12	589	17	944	34	1,247	27
Research	90	2	122	4	213	6	64	2	87	2
Provisions for losses	190	5	32	1	131	4	20	1	275	6
Other overhead	271	8	291	9	299	8	292	11	399	9
Total	910	25	803	26	1,232	35	1,320	48	2,008	43
Net Operating Profit (loss)	(335)	(9)	(66)	(2)	(400)	(11)	(125)	(4)	536	12
Other income	137	4	5	-	605	17	923	34	189	4
Other expenses	524	(15)	(143)	(5)	(503)	(14)	(819)	(31)	(40)	(1)
Net income (loss) before tax	(722)	(20)	(204)	(7)	(298)	(8)	(21)	(1)	685	15
Taxes	(1)	-	-	-	(100)	(3)	(57)	(2)	68	(2)
Net income (loss)	(723)	(20)	(204)	(7)	(408)	(11)	(78)	(3)	617	13
Ratios										
Interest income as % of average loan portfolio	8.5		8.9		9.1		11.1		12.2	
Interest expense as % of average borrowings	7.3		7.2		8.2		7.5		8.2	
Interest spread /b	-		-		-		3.6		4.0	
Dividend payout ratio	2.4		3.0		2.3		3.2		3.6	
Debt service ratio /c	1.3		1.6		1.6		1.9		1.8	

/a The 1975 and 1979 income statements are unaudited, while 1976-78 are audited by the external auditors.

/b Interest spread has not been calculated for 1975-77 since some of the borrowings are not related to financial operations.

/c Net income after tax + interest charges + noncash charges + long-term loan collections to interest charges + repayments of long-term borrowings.

KOREAAGRICULTURE AND FISHERY DEVELOPMENT CORPORATIONBalance Sheet, 1975-79 /a
(in million Won)

As of December 31,	1975	1976	1977	1978	1979
ASSETS					
<u>Current Assets</u>					
Cash and deposits	555	684	377	7,841	6,679
Advances /b	1,491	907	2,320	1,664	1,484
Inventories	1,077	1,571	675	118	2
Current portion of loans	2,109	2,718	5,176	7,310	12,256
Other current assets	248	218	242	461	387
<u>Total Current Assets</u>	<u>5,480</u>	<u>6,098</u>	<u>8,790</u>	<u>17,394</u>	<u>20,808</u>
<u>Loan Portfolio</u>					
S/T loans	1,434	1,635	3,893	5,377	10,233
L/T loans to investments	1,576	1,413	1,547	1,680	1,685
L/T loans to sold-out companies:	4,514	3,951	3,422	4,061	3,646
(of which interest-free loans)	(1,898)	(1,734)	(1,657)	(2,701)	(2,482)
IBRD project subloans	88	503	2,358	5,879	6,854
<u>Loans Outstanding</u>	<u>7,612</u>	<u>7,502</u>	<u>11,220</u>	<u>16,997</u>	<u>22,418</u>
Less provisions	-	-	(49)	(58)	(333)
Less current portion	(2,109)	(2,718)	(5,176)	(7,310)	(12,256)
Investments	2,858	2,906	2,906	2,934	4,624
Fixed assets	930	955	578	476	1,278
Other assets	186	190	187	600	263
<u>Total Assets</u>	<u>14,957</u>	<u>14,933</u>	<u>18,456</u>	<u>31,033</u>	<u>36,802</u>
LIABILITIES & EQUITY					
<u>Current Liabilities</u>					
Current maturities of borrowings	2,120	2,544	3,830	6,014	10,342
APPSP deposits	-	-	-	6,673	5,115
Other current liabilities	441	343	435	393	1,253
<u>Total Current Liabilities</u>	<u>2,561</u>	<u>2,887</u>	<u>4,265</u>	<u>13,080</u>	<u>16,710</u>
<u>Borrowings</u>					
Short-term domestic currency	1,748	2,026	3,353	5,321	9,585
Long-term domestic currency	1,799	2,033	2,970	3,449	3,391
Long-term foreign currency	1,403	1,735	3,186	6,584	7,752
<u>Total Borrowings</u>	<u>4,950</u>	<u>5,794</u>	<u>9,509</u>	<u>15,354</u>	<u>20,728</u>
Less current maturities	(2,120)	(2,544)	(3,830)	(6,014)	(10,342)
Other liabilities	683	117	237	366	417
<u>Equity</u>					
Paid-in capital	8,600	8,600	8,600	8,600	8,600
Capital surplus	17	17	4	54	479
Retained earnings	266	62	(329)	(407)	210
<u>Total Equity</u>	<u>8,883</u>	<u>8,679</u>	<u>8,275</u>	<u>8,247</u>	<u>9,289</u>
<u>Total</u>	<u>14,957</u>	<u>14,933</u>	<u>18,456</u>	<u>31,033</u>	<u>36,802</u>
Ratios					
Current ratio /c	2.14:1	2.11:1	2.06:1	1.67:1	1.35:1
Debt/equity ratio	0.56:1	0.67:1	1.15:1	1.86:1	2.23:1
Provisions as % of average loan portfolio	-	-	0.4	0.3	1.5

/a Balance sheet for 1976-78 is audited, while 1975 and 1979 are unaudited.

/b Net of provisions.

/c Excluding APPSP deposits from both assets and liabilities because of their specific purpose.

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AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Cash Flow, 1975-79
(in million Won)

	1975	1976	1977	1978	1979
<u>SOURCES OF FUNDS</u>					
Net income	(724)	(204)	(408)	(78)	617
Plus noncash charges:					
Depreciation	91	91	123	44	52
Retirement allowances	56	94	278	264	185
Provisions	190	32	131	20	275
Loss on foreign exchange	-	32	214	344	-
Other	-	-	-	-	(153)
<u>Total funds from operations</u>	<u>(387)</u>	<u>45</u>	<u>338</u>	<u>594</u>	<u>976</u>
Sale of fixed assets	77	54	450	414	242
Loan collections:					
Short-term loans	2,187	2,427	2,769	7,470	6,998
Long-term loans	799	834	1,064	1,275	1,773
Subtotal	<u>2,986</u>	<u>3,261</u>	<u>3,833</u>	<u>8,745</u>	<u>8,771</u>
Sale of investments	-	-	-	111	60
Borrowings:					
Short-term domestic currency	1,748	2,026	3,353	5,321	11,029
Long-term domestic currency	218	500	1,353	881	360
Long-term foreign currency	80	373	1,125	2,679	1,776
Subtotal	<u>2,046</u>	<u>2,899</u>	<u>5,831</u>	<u>8,881</u>	<u>13,165</u>
Increase in other liabilities	50	-	92	6,631	-
Decrease in other assets	1,257	84	-	572	707
Increase in capital	-	-	4	51	425
<u>Total Sources</u>	<u>6,029</u>	<u>6,343</u>	<u>10,548</u>	<u>25,999</u>	<u>24,346</u>
<u>USES OF FUNDS</u>					
Loan disbursements:					
Short-term loans	2,489	2,628	5,027	8,954	11,854
IBRD project subloans	88	417	1,813	3,342	1,768
Other long-term loans	286	-	468	573	570
Increase in interest-free loans	105	73	-	1,120	-
Subtotal	<u>2,968</u>	<u>3,118</u>	<u>7,308</u>	<u>13,989</u>	<u>14,192</u>
Investments	-	48	-	139	1,750
Increase in fixed assets	243	170	195	357	1,096
Debt repayment:					
Short-term	2,323	1,748	2,026	3,353	6,765
Long-term	232	372	546	560	873
Subtotal	<u>2,555</u>	<u>2,120</u>	<u>2,572</u>	<u>3,913</u>	<u>7,638</u>
Increase in other assets	-	-	538	-	-
Decrease in other liabilities	-	98	-	-	698
Other payments	-	49	190	137	134
Writeoff	-	611	52	-	-
<u>Total Uses</u>	<u>5,766</u>	<u>6,214</u>	<u>10,855</u>	<u>18,535</u>	<u>25,508</u>
Increase (decrease) in cash	263	129	(307)	7,464	(1,162)
Beginning cash and deposits	292	555	684	377	7,841
Ending cash and deposits	555	684	377	7,841	6,679

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AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Long-Term Loans Collections and Arrears
(in million Won)

	<u>1975</u>		<u>1976</u>		<u>1977</u>		<u>1978</u>		<u>1979</u>	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
Repayments due	799	342	1,052	398	1,168	432	1,449	671	1,957	1,064
Collection	799	342	834	384	1,064	381	1,275	602	1,773	953
Arrears	-	-	218	14	104	51	174	69	184	111
Collections ratio <u>/a</u>	100	100	80	96	91	88	88	90	90	89
Arrears ratio <u>/b</u>	0	0	3.9		2.1		2.1		2.4	

/a Collections as % of repayments due.

/b Total arrears as % of total long-term loans outstanding.

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AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Ageing of Arrears
(in million Won)

Type of loan	<u>Total</u>			<u>Up to 6 months</u>	<u>6 to 12 months</u>	<u>Over 12 months</u>
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>	<u>Amount</u>	<u>Amount</u>	<u>Amount</u>
<u>As of December 31, 1977</u>						
Loans to equity investments	-	-	-	-	-	-
Loans to sold-out companies	97	31	128	128	-	-
First project subloans	7	20	27	23	3	1
<u>Total</u>	<u>104</u>	<u>51</u>	<u>155</u>	<u>151</u>	<u>3</u>	<u>1</u>
<u>%</u>	<u>67</u>	<u>33</u>	<u>100</u>	<u>97</u>	<u>3</u>	<u>-</u>
<u>As of December 31, 1978</u>						
Loans to equity investments	-	-	-	-	-	-
Loans to sold-out companies	118	1	119	119	-	-
First project subloans	56	68	124	46	23	55
<u>Total</u>	<u>174</u>	<u>69</u>	<u>243</u>	<u>165</u>	<u>23</u>	<u>55</u>
<u>%</u>	<u>71</u>	<u>29</u>	<u>100</u>	<u>68</u>	<u>9</u>	<u>23</u>
<u>As of December 31, 1979</u>						
Loans to equity investments	-	12	12	-	12	-
Loans to sold-out companies	48	-	48	35	-	13
First project subloans	136	99	235	76	77	82
<u>Total</u>	<u>184</u>	<u>111</u>	<u>295</u>	<u>111</u>	<u>89</u>	<u>95</u>
<u>%</u>	<u>62</u>	<u>38</u>	<u>100</u>	<u>38</u>	<u>30</u>	<u>32</u>

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AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Subloan Collections and Arrears Under the First Project (Loan 994-K0) /a
(%)

	<u>1977</u>		<u>1978</u>		<u>1979</u>	
	<u>Collections</u> <u>/b</u>	<u>Arrears</u> <u>/c</u>	<u>Collections</u> <u>/b</u>	<u>Arrears</u> <u>/c</u>	<u>Collections</u> <u>/b</u>	<u>Arrears</u> <u>/c</u>
A. <u>On-Farm Development</u>						
Mushroom	86	18	68	24	72	29
Shitaake	73	70	61	52	56	54
Asparagus	60	7	1	3	100	-
Subtotal	77	95	63	79	70	83
B. <u>Processing Facilities</u>	100	5	93	21	96	17
C. <u>Total Project</u>	83	100	81	100	85	100
D. <u>Arrears as % of subloans</u>						
Outstanding	1.1		2.1		3.4	

/a Arrears before 1977 were insignificant.

/b Collection as percentage of repayments due for each category.

/c Arrears within category as % of total arrears.

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AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Projected Loan Operations (1980-84)

(in million Won)

	1979 Actual	1980	1981	1982	1983	1984
<u>Outstanding beginning of year</u>						
<u>Short-Term Loans</u>						
MAF funds	4,155	7,813	9,360	10,074	12,008	14,927
AFDC funds	696	1,489	3,939	4,476	4,796	5,150
Other /a	526	931	1,435	1,885	2,258	2,602
Subtotal	<u>5,377</u>	<u>10,233</u>	<u>14,734</u>	<u>16,435</u>	<u>19,062</u>	<u>22,679</u>
<u>Long-Term Loans</u>						
1st IBRD	5,879	6,854	6,173	5,067	4,010	3,012
2nd IBRD	-	-	1,090	12,500	24,870	34,400
Loans to investments	1,680	1,685	1,085	917	616	376
Loans to sold-out companies	4,061	3,646	3,204	2,976	2,656	2,398
Other	-	-	-	-	-	-
Subtotal	<u>11,620</u>	<u>12,185</u>	<u>11,552</u>	<u>21,460</u>	<u>32,152</u>	<u>40,186</u>
<u>Total Outstanding</u>	<u>16,997</u>	<u>22,418</u>	<u>26,286</u>	<u>37,895</u>	<u>51,214</u>	<u>62,865</u>
<u>Disbursements</u>						
<u>Short-Term Loans</u>						
MAF funds	10,000	12,000	13,250	17,010	21,010	24,950
AFDC funds	1,449	3,939	4,476	4,796	5,150	5,494
Other	405	1,435	1,885	2,258	2,602	3,344
Subtotal	<u>11,854</u>	<u>17,374</u>	<u>19,611</u>	<u>24,064</u>	<u>28,762</u>	<u>33,788</u>
<u>Long-Term Loans</u>						
1st IBRD	1,768	209	-	-	-	-
2nd IBRD	-	1,090	11,410	12,370	9,640	1,690
Loans to investments	170	-	-	-	-	-
Loans to sold-out companies	400	-	-	-	-	-
Other	-	-	-	-	-	8,210
Subtotal	<u>2,338</u>	<u>1,299</u>	<u>11,410</u>	<u>12,370</u>	<u>9,640</u>	<u>9,900</u>
<u>Total Disbursements</u>	<u>14,192</u>	<u>18,673</u>	<u>31,021</u>	<u>36,434</u>	<u>38,402</u>	<u>43,688</u>
<u>Repayments</u>						
<u>Short-Term Loans</u>						
MAF funds	6,342	10,453	12,536	15,076	18,091	21,706
AFDC funds	656	1,489	3,939	4,476	4,796	5,150
Other	-	931	1,435	1,885	2,258	2,602
Subtotal	<u>6,998</u>	<u>12,873</u>	<u>17,910</u>	<u>21,437</u>	<u>25,145</u>	<u>29,458</u>
<u>Long-Term Loans</u>						
1st IBRD	793	890	1,106	1,057	998	913
2nd IBRD	-	-	-	-	110	1,070
Loans to investments	165	600	168	301	240	234
Loans to sold-out companies	815	442	228	320	258	232
Subtotal	<u>1,773</u>	<u>1,932</u>	<u>1,502</u>	<u>1,678</u>	<u>1,606</u>	<u>2,449</u>
<u>Total Repayments</u>	<u>8,771</u>	<u>14,805</u>	<u>19,412</u>	<u>23,115</u>	<u>26,751</u>	<u>31,907</u>

/a Short-term loans financed from revolving funds and other special purpose government funds.

KOREAAGRICULTURE AND FISHERY DEVELOPMENT CORPORATIONProjected Income Statement (1980-84)

(in million Won)

	1979 Actual	1980	1981	1982	1983	1984
<u>Revenues</u>						
Sales:	132	175	204	224	241	271
Financial:	<u>2,548</u>	<u>3,382</u>	<u>4,885</u>	<u>6,547</u>	<u>8,286</u>	<u>9,948</u>
Interest income	2,411	3,058	4,203	5,836	7,529	9,144
Dividend	137	324	682	711	757	804
APPSP Compensation:	1,924	1,822	2,030	2,265	2,485	2,843
<u>Total Revenues</u>	<u>4,604</u>	<u>5,379</u>	<u>7,119</u>	<u>9,036</u>	<u>11,012</u>	<u>13,062</u>
<u>Operating Expenses</u>						
Cost of goods	138	158	179	196	216	238
Interest expense	1,487	1,987	2,915	3,907	4,932	5,851
APPSP direct expense	435	447	471	510	558	608
<u>Total</u>	<u>2,060</u>	<u>2,592</u>	<u>3,565</u>	<u>4,613</u>	<u>5,706</u>	<u>6,697</u>
Gross Operating Profit	2,544	2,787	3,554	4,423	5,306	6,365
<u>Administrative Expenses</u>						
Personnel	1,247	1,609	1,926	2,287	2,685	3,160
Research	87	103	118	135	155	178
Provisions for losses	275	62	173	200	175	176
Other overhead	399	425	513	615	707	813
<u>Total</u>	<u>2,008</u>	<u>2,199</u>	<u>2,730</u>	<u>3,237</u>	<u>3,722</u>	<u>4,327</u>
Net Operating Profit	536	588	824	1,186	1,584	2,038
Other income	189	76	90	115	147	179
Other expenses	(40)	(50)	(60)	(70)	(80)	(90)
Net income before tax	685	614	854	1,231	1,651	2,127
Taxes	68	61	85	123	165	212
Net income	<u>617</u>	<u>553</u>	<u>769</u>	<u>1,108</u>	<u>1,486</u>	<u>1,915</u>
<u>Ratios</u>						
<u>As % of Total Revenue</u>						
Sales	2.9	3.2	2.9	2.5	2.2	2.1
Financial income	55.3	62.9	68.6	72.5	75.2	76.1
APPSP compensation	41.8	33.8	28.5	25.0	22.6	21.8
Administrative expenses	43.6	40.9	38.3	35.8	33.8	33.1
Net income	13.4	10.3	10.8	12.2	13.5	14.7
Interest income as % of average loan portfolio	12.2	12.5	13.1	13.1	13.2	13.3
Interest expense as % of average total borrowings	8.2	8.6	9.5	9.3	9.2	9.1
Interest spread	4.0	3.9	3.6	3.8	4.0	4.2
Dividend payout (%) /a	3.6	6.5	12.7	13.2	14.1	15.0
Debt service cover /b	1.8	1.7	1.5	1.4	1.3	1.3

/a Dividends as % of average equity investments.

/b Net income after tax + interest charges + noncash charges + long-term loan collections to interest charges + repayments of long-term borrowings.

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AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Projected Balance Sheet (1980-84)
(in million Won)

	1979 Actual	1980	1981	1982	1983	1984
ASSETS						
Current Assets						
Cash and deposits	6,679	10,694	12,467	14,316	16,304	17,829
Advances	1,484	30	33	37	40	45
Inventories	2	2	2	2	2	2
Current portion of loans	12,256	16,630	20,952	25,601	30,353	35,906
Other current assets	387	604	825	1,065	1,301	1,463
Total Current	20,808	27,960	34,279	41,021	48,000	55,245
Loan Portfolio						
S/T loans	10,233	14,734	16,435	19,062	22,679	27,009
L/T loans to investments	1,685	1,085	917	616	376	142
L/T loans to sold-out companies	3,646	3,204	2,976	2,656	2,398	2,166
Project subloans /a	6,854	7,263	17,567	28,880	37,412	37,119
Other	-	-	-	-	-	8,210
Loan Outstanding	22,418	26,286	37,895	51,214	62,865	74,646
Less provisions	(333)	(395)	(568)	(768)	(943)	(1,119)
Less current portion	(12,256)	(16,630)	(20,952)	(25,601)	(30,353)	(35,906)
Investments	4,624	5,366	5,366	5,366	5,366	5,366
Fixed assets	1,278	1,268	1,215	1,187	1,178	1,187
Other assets	263	289	318	350	385	423
Total Assets	36,802	44,144	57,553	72,769	86,498	99,842
LIABILITIES & EQUITY						
Current Liabilities						
Current maturities of borrowings	10,342	11,769	13,924	16,649	20,600	24,404
APPSP deposits	5,115	8,074	8,881	9,769	10,746	11,821
Other current liabilities	1,253	377	538	708	869	982
Total Current Liabilities	16,710	20,220	23,343	27,126	32,215	37,207
Borrowings						
Short-term domestic currency	9,585	10,903	12,847	15,181	18,010	21,304
Long-term domestic currency	3,391	5,631	6,969	8,116	8,946	9,950
Long-term foreign currency	7,752	7,320	15,566	24,952	32,174	37,854
Total Borrowings	20,728	23,854	35,382	48,249	59,130	69,108
Less current maturities	(10,342)	(11,769)	(13,924)	(16,649)	(20,600)	(24,404)
Other liabilities	417	533	640	764	907	1,073
Equity						
Paid-in capital	8,600	10,000	10,000	10,000	10,000	10,000
Capital surplus	479	543	580	639	720	817
Retained earnings	210	763	1,532	2,640	4,126	6,041
Total Equity	9,289	11,306	12,112	13,279	14,846	16,858
Total	36,802	44,144	57,553	72,769	86,498	99,842
Ratios						
Current ratio /b	1.35:1	1.64:1	1.76:1	1.80:1	1.74:1	1.71:1
Debt/equity ratio	2.23:1	2.12:1	2.92:1	3.63:1	3.98:1	4.10:1
Provisions as % of average loan portfolio	1.5	1.5	1.5	1.5	1.5	1.5

/a First and second project subloans.

/b Excluding APPSP deposits from both assets and liabilities.

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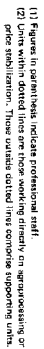
AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION

Projected Cash Flow (1980-84)
(in million Won)

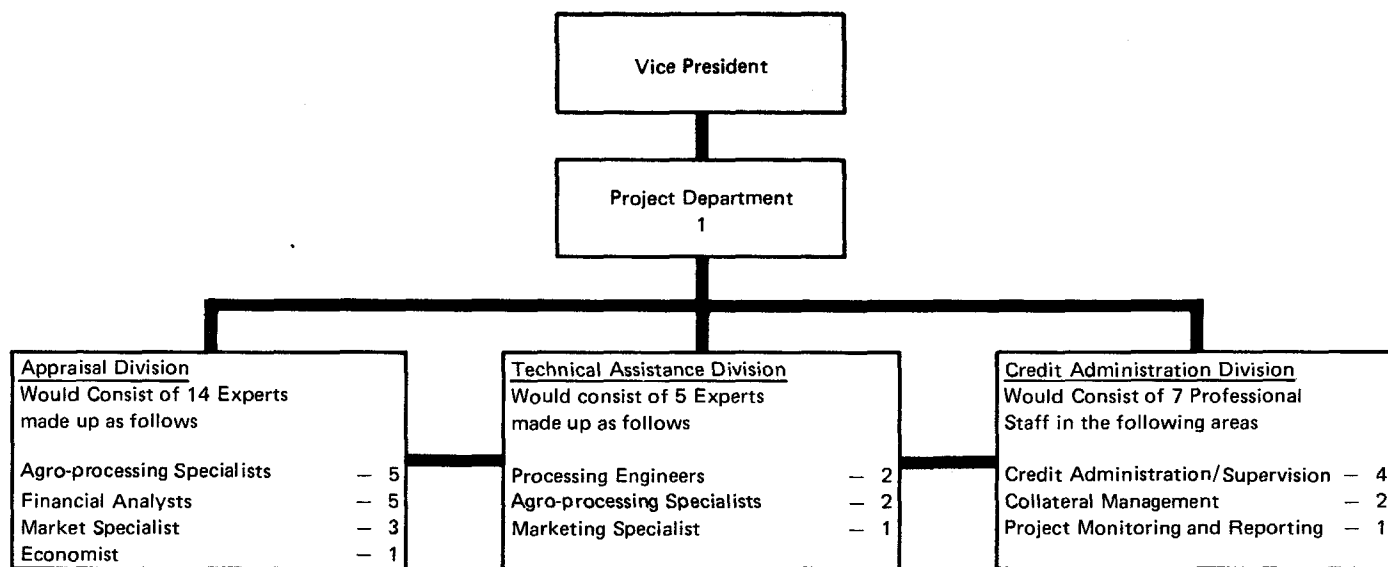
	1979 Actual	1980	1981	1982	1983	1984
<u>SOURCES OF FUNDS</u>						
Net income	617	553	769	1,108	1,486	1,915
Plus noncash charges:						
Depreciation	52	50	118	115	118	122
Retirement allowances	185	116	107	124	143	166
Provisions (net)	275	62	173	200	175	176
Other	(153)	-	-	-	-	-
<u>Total Funds From Operations</u>	<u>976</u>	<u>781</u>	<u>1,167</u>	<u>1,547</u>	<u>1,922</u>	<u>2,379</u>
Sale of fixed assets	242	-	-	-	-	-
Loan collections:						
Short-term loans	6,998	12,873	17,910	21,437	25,145	29,458
Long-term loans	1,773	1,932	1,502	1,678	1,606	2,449
Subtotal	<u>8,771</u>	<u>14,805</u>	<u>19,412</u>	<u>23,115</u>	<u>26,751</u>	<u>31,907</u>
Sale of investments	60	114	-	-	-	-
<u>Borrowings</u>						
Short-term domestic currency	11,029	12,800	15,280	18,290	21,880	26,090
Long-term domestic currency	360	2,600	1,750	1,750	1,400	1,954
Long-term foreign currency	1,776	-	8,700	9,860	8,120	7,320
Subtotal	<u>13,165</u>	<u>15,400</u>	<u>25,730</u>	<u>29,900</u>	<u>31,400</u>	<u>35,364</u>
Increase in other liabilities	-	2,083	968	1,058	1,138	1,188
Decrease in other assets	707	1,211	-	-	-	-
Increase in capital	425	1,464	37	59	81	97
<u>Total Sources</u>	<u>24,346</u>	<u>35,858</u>	<u>47,314</u>	<u>55,679</u>	<u>61,292</u>	<u>70,935</u>
<u>USES OF FUNDS</u>						
Loan disbursements						
Short-term loans	11,854	17,374	19,611	24,064	28,762	33,788
Long-term loans	2,338	1,299	11,410	12,370	9,640	9,900
Subtotal	<u>14,192</u>	<u>18,673</u>	<u>31,021</u>	<u>36,434</u>	<u>38,402</u>	<u>43,688</u>
Investments	1,750	856	-	-	-	-
Increase in fixed assets	1,096	40	65	87	109	131
Debt repayment						
Short-term	6,765	11,482	13,336	15,956	19,051	22,796
Long-term	873	792	866	1,077	1,468	2,590
Subtotal	<u>7,638</u>	<u>12,274</u>	<u>14,202</u>	<u>17,033</u>	<u>20,519</u>	<u>25,386</u>
Increase in other assets	-	-	253	276	274	205
Decrease in other liabilities	698	-	-	-	-	-
Other	134	-	-	-	-	-
<u>Total Uses</u>	<u>25,508</u>	<u>31,843</u>	<u>45,541</u>	<u>53,830</u>	<u>59,304</u>	<u>69,410</u>
Increase (decrease) in cash	(1,162)	4,015	1,773	1,849	1,988	1,525
Beginning cash and deposits	7,841	6,679	10,694	12,467	14,316	16,304
Ending cash and deposits	6,679	10,694	12,467	14,316	16,304	17,829

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graph TD
    Board[Board of Directors] --> President[President]
    President --- EVP[Executive Vice President]
    EVP --- Secretary[Secretary]
    EVP --- Treasurer[Treasurer]
  
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**KOREA
PROPOSED PROJECT DEPARTMENT
AGRICULTURE AND FISHERY DEVELOPMENT CORPORATION**



World Bank — 21091

KOREA

SECOND AGRICULTURAL PRODUCTS PROCESSING PROJECT

Estimated Disbursement Schedule
(US\$ million)

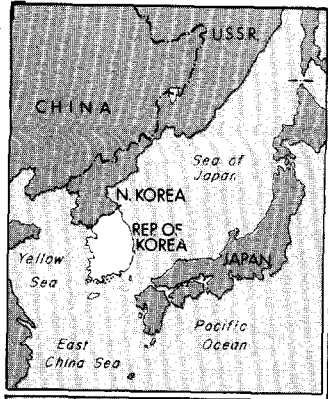
Quarter ending	Cumulative disbursements
<u>1981</u>	
March 31, 1981	4.0
June 30, 1981	7.0
September 30, 1981	11.0
December 31, 1981	15.0
<u>1982</u>	
March 31, 1982	19.0
June 30, 1982	23.0
September 30, 1982	27.0
December 31, 1982	32.0
<u>1983</u>	
March 31, 1983	36.0
June 30, 1983	40.0
September 30, 1983	43.0
December 31, 1983	46.0
<u>1984</u>	
March 31, 1984	48.0
June 30, 1984	50.0

KOREA

SECOND AGRICULTURAL PRODUCTS PROCESSING PROJECT

Additional Documents and Data Available in the Project File

1. AFDC, Preparation Report on IBRD Loan Application for Second Agricultural Products Processing Project, July 1979.
2. AFDC, Agroprocessing Facility Study in Korea, Vols. I and II, May 11, 1979
(Study prepared by Samil Accounting Corporation).
3. MAF, Yearbook of Agriculture and Forestry Statistics, 1978.
4. MAF, Yearbook of Fisheries Statistics, 1978.
5. MAF, Report on the Results of Foodgrain Consumption Survey, 1969-78.



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